

## CHAPTER 11

# Teaching Children with Special Health Care Needs

### learning outcomes

After reading this chapter, you should be able to:

1. Define and discuss special health needs and how those needs impact children's health, functional status, and education.
2. Identify ways to plan inclusive classrooms that provide a least restrictive environment and meet the goals of inclusion.
3. Explain common health conditions in early childhood and discuss applicable classroom management strategies for these conditions.

## CASE STUDY

Jeremy is a 5-year-old African American boy who will join Mary's kindergarten class in the fall. His medical history is complicated. He was born extremely prematurely at 25 weeks gestation, with a birth weight of less than 2 pounds. He stayed in the hospital for nearly two and a half months after his birth. To help him breathe, Jeremy was on a ventilator for six weeks, and he had bleeding around his brain, which was significant but not uncommon for his degree of prematurity. Consequently, Jeremy now has several medical problems that impact his learning. He has cerebral palsy, which mainly affects his lower limbs. He also has asthma and a visual impairment requiring corrective lenses, and he was recently diagnosed with attention deficit disorder.

Mary has had experience with many children who have special developmental needs, but Jeremy's health history is unique. She wonders how his medical problems will impact his learning in the classroom. She looks for resources to learn more about Jeremy so that she can start planning how to help him adjust to the classroom setting. Mary makes notes of her questions. Then she gathers her notebook and walks down the hall to the school library where Jeremy's kindergarten transition meeting is scheduled in a few minutes. One school year is ending, but Mary is already starting to think about next fall and the important experience ahead for this young child.

Teaching young children is an exciting profession that combines the enjoyment of helping young children grow and discover their world with the responsibility of ensuring children's health and well-being. This responsibility adds challenge and focus to teachers' endeavors. For many teachers like Mary, the most rewarding aspect of their work comes from crafting individualized approaches that support the learning of children with unique needs.

In this chapter, we will discuss children's special health care needs and explore ways in which a child's exceptional health needs affect his or her development and the context of the family. We will also discuss laws related to children who have special health needs and briefly explore treatments that are used to improve children's health outcomes. Finally, we will describe the various health needs and discuss some of the ways these conditions are managed in the early childhood setting. Understanding children's special health care needs and making purposeful adjustments to the classroom setting are crucial aspects of teaching that characterize the teacher's role in helping children reach their full potential.

## UNDERSTANDING CHILDREN'S SPECIAL HEALTH CARE NEEDS

More than ever before, children with chronic medical conditions are enrolled in early childhood programs and included in school classrooms. Nearly every early childhood classroom includes children with special health care needs. This highlights the need for teachers to be prepared to serve children who have a variety of medical needs and to prepare their classrooms and curriculum to support these learners.

### Defining Special Health Care Needs

Children with special health care needs "have or are at risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally" (U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau, 2008). This definition encompasses a wide range of medical conditions that have an impact on education. To support children with special health care needs so that they can develop to their full potential, their health care and educational needs must be addressed at home, at school, and in the community. Children's special health care diagnoses, treatments, and educational interventions and outcomes are unique for each child and change as the child grows and develops.

Teachers make a significant contribution to the education and development of children with special health care needs. They do this by being:

- *Capable and willing*—to learn about the child's unique health care and educational needs.
- *Adaptable and able*—to envision and implement appropriate adjustments in the classroom and curriculum.
- *Reflective and responsive*—to identify successful educational interventions and put them into practice when needed.

In the opening case scenario, Mary demonstrated these engaging and proactive characteristics. As soon as she learned she would be teaching a child with special health care needs, she began to outline the kinds of information she would need to be effective as Jeremy's teacher.

#### children with special health care needs

children who have or are at risk for a chronic physical, developmental, behavioral, or emotional condition and who require health and related services of a type or amount beyond that generally required



## Prevalence of Children with Special Health Care Needs

According to data from surveys in 2011/2012, 19.8%, or 14.6 million, of U.S. children had a special health care need. About 65% of children with special health care needs have more complex needs beyond treatment with prescription medications for management of their condition (U.S. Department of Health and Human Services, Health Resources and Services Administration, 2013). The increase in the number of children with special health care needs in classrooms is due to increased inclusion as well as a growing prevalence of certain conditions. Inclusion of children increased significantly after the Individuals with Disabilities Education Act (IDEA) was adopted.

The incidence of some health conditions has increased as well, such as Jeremy in the opening scenario who was born very premature. Although the survival rates for premature infants are higher, some of these babies are left with medical conditions such as cerebral palsy, intellectual disabilities, or other disabilities that will impact the child's ability to learn.

Children with special health care needs (CSHCN) represent a diverse group. Special health care needs are present in families of all income levels, races, ethnicities, religions, and cultures. Boys have higher rates than girls as do black, non-Hispanic children compared with other races and ethnicities (Child Trends, 2012). Prevalence rates for some health conditions vary according to geographic areas. In the southeastern United States, sickle cell anemia is more common than in West Virginia, where cystic fibrosis is a more prevalent condition.

## Functional Status

**functional status**  
characteristics that are most important to parents and teachers: how well a child can function in the community, in the classroom, and in relationships

**Functional status** describes the characteristics that are most important to parents and teachers: how well a child can function in the community, in the classroom, in relationships and in activities of daily living. The World Health Organization advocates for emphasizing children's functional status and capabilities rather than focusing on children's limitations and disability. This puts the focus on the child and not on the special health care condition or disability. When discussing children who have special medical conditions, the child's name is used first, followed by the identifying characteristic. This is referred to as **people-first language**. The phrase *children with diabetes* reinforces the concept of thinking of children as people with many complexities, qualities, and abilities. The phrase *diabetic children*, by comparison, puts more focus on the medical condition and limitations.

**people-first language**  
Identifying people or children first rather than a health condition

To achieve positive functional status, children with special health care needs may require specialized health care services. These services include prescription medications, special diets, medical equipment, or frequent use of health care services. Specialized services may be offered within the health care system or through special educational services. Following are some examples of specialized health care services:

- Specialist care (pediatric cardiology, pulmonology, neurology).
- Mental health care.
- Dental care.
- Physical therapy, occupational therapy, speech therapy.
- Preventive care.
- Eyeglasses/vision care.
- Prescription medications.

When children have unmet health care needs, many aspects of their lives are affected. A child with **Down syndrome**, a genetic condition that causes intellectual and physical challenges, needs regular vision care because of the high likelihood of needing corrective lenses or other treatment. Without these interventions, the child's health, wellness, and learning are negatively impacted.

Many CSHCN also have limitations in their ability to participate fully in the activities of daily living. These challenges are called **functional limitations** and have an impact on educational settings. Over 91% of families of CSHCN report at least one functional limitation. The following are the most common (U.S. Department of Health and Human Services, Health Resources and Services Administration, 2013).

- Difficulty breathing or other respiratory problems
- Physical pain that is recurrent or chronic, such as headaches
- Feelings of anxiety or depression
- Problems with learning or sustaining attention
- Behavior problems

**Down syndrome**  
a genetic condition that causes mental and physical challenges

**functional limitations**  
challenges that limit a child's ability to participate in activities of daily living

## Impact on Families

Special health care needs can add complexity to family life depending on the type and degree of the child's challenges. Some families may be better able to cope than others depending on socioeconomic status and other family stressors. Families with children who have special health needs have added financial stress even if health insurance is available.

## Financial Issues

Among children with special health care needs, there are higher rates of poverty in African Americans (38.9%) and Hispanic (35.5%) compared with Caucasian (14.1%) (Child and Adolescent Health Measurement Initiative, 2012). Financial problems often pose additional challenges to families with CSHCN. Children living in poverty are more likely to have certain health conditions such as asthma, emotional and behavioral problems, learning disabilities, and obesity (National Center for Child Poverty, 2011).

Over 21% of families of CSHCN identify a significant financial burden. Families of CSHCN may have increased expenses due to health care services, special foods, equipment, utilities (heat, water), clothing, and medications (Parish, Rose, Dababnah, Yoo, & Cassiman, 2012). Parental employment is also affected. Nearly 25% of parents of children with special health care needs report cutting back or quitting their jobs (U.S. Department of Health and Human Services, Health Resources and Services Administration, 2013).

Despite being insured, over 40% of parents with CSHCN still report that their health insurance is inadequate (Child and Adolescent Health Measurement Initiative, 2012). For example, not all prescription medications and therapies are covered by insurance. A child with asthma who does not have an inhaler because the family could not afford it is at risk for having symptoms in school that affect his or her participation and learning.

## WHAT IF . . .

a child in your classroom shows symptoms of asthma? The family has not sought medical advice, so you have no guidance about how to manage the child's needs in the classroom. You have called the child's family to pick him up early from school, but this means the family member must leave work, thus losing pay because of the missed time. How will you manage this situation? What resources are available to you?





### CHECK YOUR UNDERSTANDING 11.1

Click here to check your understanding of children's special health care needs.

## Educational Impact

Because the health of children is so closely connected to their educational performance, children with special health care needs face unique educational challenges. Identified challenges include more days absent from school, poorer student engagement, behavioral problems, and lower academic achievement (O'Connor, Howell-Meurs, Kvalsvig, & Goldfeld, 2014).

Attendance is also more of a problem for CSHCN. Irregular attendance places children at a disadvantage in the classroom where learning builds on previous lessons the child may have missed. These issues double the negative impact on learning for children with special health care needs: The health challenge itself may impact the child's ability to learn as well as reduce the child's participation and attendance. Special attention is needed to build on the child's capacity to learn and to address gaps that may occur with irregular attendance.

## PLANNING INCLUSIVE CLASSROOMS

Children with medical conditions bring special health-related issues and needs to the early childhood setting. These needs include a range of activities that necessitate accommodations in the classroom environment. Because children's health care needs permeate all aspects of their lives, it is important for teachers to understand them and learn how best to address each situation so that children will have more positive health outcomes.

## Ensuring Access to Education

The federal Individuals with Disabilities Education Act describes the requirements regarding provision of services to children with disabilities across the nation. Children with special health care needs are identified for service through the IDEA when their health condition interrupts their ability to learn. The IDEA ensures that children with disabling conditions are able to participate in and be supported to progress in general education. The IDEA describes other health impairment as follows:

*Other health impairment means having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that:*

- Is due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit/hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome; and
- Adversely affects a child's educational performance.

*Three specialized plans describe the services available:*

- *Individualized family services plan (IFSP):* This early intervention plan for children ages 0 to 3 years is intended to support and provide services that are targeted to improving the child's developmental progress.
- *Individualized education program (IEP):* This plan is for children in the school setting ages 3 to 21 years who need special education services due to cognitive, motor, social, and communication impairments.
- *Individualized health plan (IHP):* This plan is developed for students who have medical conditions that require management or treatment in the school setting. The IHP may be written as a component of the child's IEP.



Early childhood teachers and schools rely on the support of the local education agency (LEA) charged with administering and overseeing the implementation of the IDEA in the state or locality. This is often the public board of education or another authority that is responsible for evaluating children for participation in early intervention services and for providing needed services. This agency participates with families and schools to create a plan that meets the child's educational needs and addresses the impact of special health conditions.

Some early childhood programs benefit from training provided by the LEA to implement the child's education and health plan. The guidance of a medical consultant is also beneficial. Some school districts have school nurses available to see children and advise teachers in the care of a child with special health needs in the school setting. The *Policy Point* discusses the role of school nurses as a resource for children with special health care needs, their families, and teachers.

### Supporting Appropriate Inclusion

**Inclusion** is the policy that children with disabilities participate in school activities alongside other children without disabilities to the maximum extent possible. This includes academic and extracurricular activities (Turnbull, Turnbull, Wehmeyer, & Shogren, 2013). The principle of *least restrictive environment* supports inclusion. Federal laws do not require inclusion, but the IDEA does require that children be educated in the least restrictive environment appropriate to meet their unique needs (U.S. Department of Education, n.d.). Teachers are important participants in making placement decisions for children with special health care needs. Along with families and the representatives of the LEA, each classroom is evaluated as a potential educational placement. Decisions are based on the needs of the child, her or his peers, and the classroom's ability to meet those needs.

Teachers may be asked to monitor the child's health status and provide individualized care. Some needs may address making relatively minor changes in the environment. Others may include changing diapers; suctioning a **tracheostomy tube**



Pearson Education

### CLASSROOM CONNECTION

Watch this video about how a preschool honors and prioritizes inclusion. How is inclusion beneficial to children with special needs as well as children who develop typically?

#### **inclusion**

the policy that allows children with disabilities to participate in school activities alongside other children without disabilities to the maximum extent possible

#### **tracheostomy tube**

a surgically placed tube that allows air and oxygen to enter the lungs through the neck



## POLICY POINT

### The Role of School Nurses for Children with Special Health Care Needs

One of the goals of *Healthy People 2020* is to ensure that schools have one school nurse for every 750 students. Even more nurses are recommended for schools enrolling a high number of children with special health care needs. School nurses are directly involved with children's existing and potential health problems. They provide screening and referral for health conditions. School nurses also provide case management services and collaborate with family and community members regarding children's health. Most importantly for children with special health care needs, the school nurse is the health expert for the teams developing the individualized education program (IEP).

School nurses support teachers regarding services for children with special health care needs by:

1. Assessing health complaints. This is particularly important for children who are at risk for acute illnesses such as asthma, cystic fibrosis, and diabetes.
2. Administering medications.
3. Identifying and managing children's health care needs that affect educational achievement.

Recent economic constraints have reduced the number of nurses assigned to schools, hindering the *Healthy People 2020* goal. Early childhood professionals and administrators are important advocates for this service and other forms of school health care support.



**gastrostomy tube**  
a tube placed through the abdominal wall into the stomach to feed children who are unable to eat orally

(a surgically placed tube that allows air and oxygen to enter the lungs through the neck); or feeding a child with a **gastrostomy tube**, a tube placed through the abdominal wall into the stomach to feed children who are unable to eat orally.

Teachers are part of a service team that plans, implements, and evaluates the effectiveness of services provided for children with special needs. They follow the guidance provided by the medical professionals and most often have either daily or periodic support of early intervention specialists and therapists. One aspect of inclusion that falls under the teacher's responsibilities is creating an environment in which all children are welcomed and encouraged to thrive.

## Administering Medications

Many children with special health care needs are given prescription medications and may require medications during the school day. To manage this safely, early childhood settings should have a written policy describing how medications are to be administered. Persons administering medications should be familiar with the policy and receive appropriate training to ensure safety. Recommended standards are available to guide best practice procedures for medication administration. For example, the *National Health and Safety Performance Standards* recommend that medication administration be allowed when a health care provider orders a prescription or over-the-counter medicine with permission from the parent/guardian.

Because medication errors can occur easily, all schools and child care facilities should use a standard form that explains the details of medication administration. A standard form for this purpose is shown in Figure 11-1. Guidelines for the administration of medications include the following (American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education, 2011):

- Orders specifying medical need, medication, dosage, and length of time medication is given should be provided by health professional.
- Medications should be labeled and in the original container, and label should include child's name, date filled, prescribing clinician's name, pharmacy name and phone number, dosage instructions, and warnings.
- Observe, report, and document any reactions or side effects from medications.
- Document the time and amount of medicine given and the name of the person administering the medication.

## Partnering with Families

Communicating with families is essential to appropriate education and care of children with special medical conditions. Developing partnerships with families has a positive impact on children's education and well-being. When children have special health care needs, communication is of even greater importance. Establishing a good working relationship starts when children with health needs are enrolled and are preparing to join the class. Enrollment materials gather many details about a child's condition and special health considerations. Review of the health history further clarifies aspects of the child's need. However, discussing the plan for the child's entry into the early childhood environment directly with a family member is the most important component of a successful transition.

FIGURE 11-1 Medication Administration Permission Form

**Medication Permission and Administration Permission Form**

The staff of the King Avenue Child Development Center has been asked by  
 (Parent/Guardian) \_\_\_\_\_ to administer medication to  
 (Child) \_\_\_\_\_ during the school day.  
 In order to comply with this request and in accordance with our state law, we need the  
 following information from you.

**MEDICAL PROVIDER INFORMATION**

Health care provider signature \_\_\_\_\_ Date \_\_\_\_\_  
 Health care provider name \_\_\_\_\_  
 Address \_\_\_\_\_  
 Phone \_\_\_\_\_  
 Fax \_\_\_\_\_

**DIRECTIONS FOR ADMINISTRATION OF MEDICATION**

Child's name \_\_\_\_\_ Date of birth \_\_\_\_\_  
 Name of medication \_\_\_\_\_  
 Purpose of medication \_\_\_\_\_  
 Starting date \_\_\_\_\_ Ending date \_\_\_\_\_  
 Dosage \_\_\_\_\_  
 When to give medication \_\_\_\_\_  
 Time(s) to be given \_\_\_\_\_  
 How medication is given: By mouth \_\_\_\_\_ By injection \_\_\_\_\_ Other \_\_\_\_\_  
 Special instructions \_\_\_\_\_

Signs or symptom(s) to watch for \_\_\_\_\_  
 Possible side effects or reactions \_\_\_\_\_  
 Adaptations suggested for the classroom \_\_\_\_\_

When to call the parent or health care provider regarding symptoms or if the child fails to  
 respond to treatment \_\_\_\_\_

Signs that urgent care is needed \_\_\_\_\_

**PARENT PERMISSION**

*I request and authorize the King Avenue Child Development Center to administer this  
 medication in accordance with the instructions provided by my child's medical provider.*

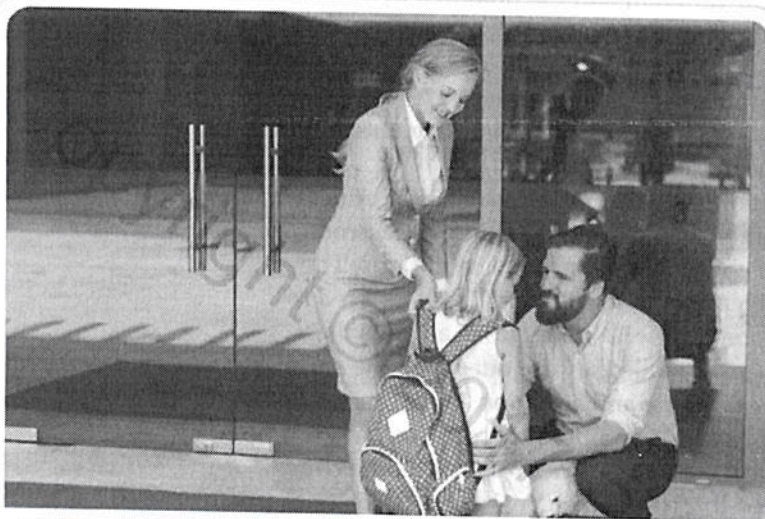
Parent or Guardian Signature \_\_\_\_\_

Date \_\_\_\_\_

Parent or Guardian Name \_\_\_\_\_

Phone \_\_\_\_\_





Families need reassurance that their child with special health care needs will be safe in the early childhood setting.

Families may understandably have many worries about their child with special health care needs. They need to feel assured that the teacher is aware of their child's condition and is ready to assume responsibility for the child's safety and well-being. Direct conversation helps to build trust between the family and the teacher. It also contributes to a greater understanding of the relevant issues and strategies. Language and culture are important considerations when building this trusting relationship. Sometimes teachers may tend to communicate less with families who are not English speakers. Some parents may struggle to explain their child's complex health condition and needs. Teachers are responsible for

ensuring that every family has the support they need to fully discuss their child's special health care needs. For example, it is not appropriate to use other children in the family as interpreters, so arranging for translation services or encouraging the family to invite a trusted friend to assist with the discussion are examples of ways to ensure full communication and to build an effective partnership.

Once children are enrolled, teacher and family communication focuses on exchanging information about the child's health and well-being during the school day. Families of children with asthma need to know if the child has been coughing, having difficulty with physical activity, or refusing to use the inhaler. A family whose child has **muscular dystrophy**, a genetic condition that causes progressive weakness, needs to know if the child is experiencing emotional problems due to his challenges. Similarly the teacher needs to be informed about any changes in the child's health status or experiences at home that might impact the child's participation in classroom activities.

To facilitate communication with families in her preschool, Janna creates a small notebook for each child with special health care needs. The notebook is placed in the child's cubby-locker. At orientation, Janna describes how the notebook is for both the teacher and the family to use in recording notes for the other. When Janna wants to communicate a health-related message, she writes a note in the log. When the family picks up the child, they check the notebook to read the teacher's message. Similarly the family can leave a message for the teacher. This method helps Janna remember to tell the family about important health observations. Karin uses a different approach. The children in her second-grade class ride the bus, so she does not see families very often. Karin uses e-mail to communicate with families about children's special medical needs.

## Educating Classmates

Some children's medical conditions are apparent; others may not be obvious. When teachers realize, however, that classmates are aware of a child's special health care needs, they plan activities to educate classmates about the medical condition. Young children may view as "different" or "strange" those unique aspects of a child's appearance, behavior, or interaction in the classroom. This is due to children's

**muscular dystrophy**  
a disease of the muscles  
causing progressive  
weakness, susceptibility to  
pulmonary infections, and  
premature death



natural interest and curiosity in things that are different and the potential to be confused and possibly frightened by new situations. Children may be naturally curious about why a child receives medication or a special diet or why a child does not participate in running games. They may also have fears and wonder, "Could that happen to me?" When curiosity or fear is displayed in a negative way, the child with special health care needs may suffer socially.

The potential for negative social interactions is an important reason for educating classmates about a child's medical condition and special needs in the classroom. Sometimes classmates pester or make fun of children with medical conditions. They might imitate the child's movements or laugh at the child's efforts. Teachers need to be aware of these potential reactions and be prepared with strategies to address them.

Children who begin to wear corrective lenses while they are attending the early childhood program may become the center of interest and attention. Sometimes this interest takes a negative course. For example, another child may reach out to grab at the child's new glasses or children may call the child names or say that the child looks "weird." Teachers must anticipate and intervene in such situations, describing how corrective lenses help the child to see and explaining that the glasses are a precious and important tool for the child. Teachers might have a pair of corrective lenses available to let the other children touch and try on. This approach addresses children's curiosity and invites conversation and questions about vision problems and how they are managed.

In a similar way, young children are capable of learning about other medical conditions. When the mystery is removed, children become accustomed to management of the health need in the classroom; the novelty of the disability wears off, and children are more likely to treat the child with the special health care need in a typical way. Talking with classmates about a child's special health needs helps to address curiosity, lack of understanding, and fear and builds the desired sense of normalcy. This is an important aspect of creating class groups that are caring communities.

Educating classmates about children's special health care needs requires attention to developmentally appropriate messages. Very young children require short and clear explanations such as "I am helping Jax to feel better" or "D'shay needs to take this medicine to help him feel better. You can watch if you want." Older children are capable of learning more details about a condition and the activities that support the child in the classroom. Strategies to support such discussions include the following:

- Begin by discussing experiences that are familiar to the classmates. Ask children if they have ever been sick. Talk about what that felt like. Help children identify ways their family helped them to feel better, such as resting, eating healthy foods, or taking medicine.
- Show the connection between children's common experiences and the child's special health care need. Name the child's medical condition and briefly explain what it is and how it is similar to other children's health experiences. Talk about how the chronic condition is managed or treated. Identify the ways you help the child care for his or her condition in the class. Explain how the treatment helps the child.
- Talk about how the child developed the special medical condition. Explain if the child was born with the condition or if it was the result of an accident. Clarify whether the condition is contagious.
- Invite children to ask questions. Treat each question as an expression of legitimate interest and concern. Help children learn how to form questions about health.



- Discuss inappropriate interactions with the child if any have been observed. Talk about ways that children can advocate for appropriate treatment of those who have special conditions.
- Include the child with the special health care needs as a leader in the discussion if appropriate. Help the child with special health needs gain strategies and skills for describing and talking about her or his medical conditions with others.
- Engage family members in classroom discussions. Many families may choose to lead the discussion about their child's needs. You can assist in this process by ensuring that the family member is familiar with appropriate ways to communicate complex information to the particular age group.
- After holding such discussions, observe children's interactions in the class. Reflect on whether the classroom discussion was helpful in supporting positive interactions among the children with special health care needs and their classmates.

When communicating about a child's special health care need, teachers should avoid drawing undue attention to the child's limitations. Rather, the goal is to reinforce the similarities that help children to befriend one another. For example, Paula has cerebral palsy. In the classroom, she moves with the support of her walker. When the class takes a field trip to the library, Paula's classmates take turns pulling her in a wagon. Paula sits near the back of the wagon to make room for the bag of books the class is returning to the library. As they travel, they talk together about their favorite books and the topics they want to explore next. When they return to the classroom with their new bag of books, Sam turns to Paula and says, "Thanks for carrying the books." The *Teaching Wellness* feature provides other ideas that support recognition of sameness among classmates.

Supports are available to help teachers guide discussions about particular medical conditions. Picture books are a good way to introduce conversations about children's special medical conditions. Reading books such as those suggested below as part of the year-round reading options reinforces the message that special health care needs are part of the everyday world, just like caterpillars and butterflies! Here are some examples of books for young children with special health needs:

- *Lara Takes Charge* (for kids with diabetes, their friends, and siblings) by Rocky Lang and Sally Huss.
- *Taking Asthma to School* (Special Kids in School), 2nd edition, by Kim Gosselin.
- *Taking Food Allergies to School* by Ellen Weiner.



### CHECK YOUR UNDERSTANDING 11.2

Click here to check your understanding of planning inclusive classrooms.

## MANAGING SPECIAL HEALTH CARE NEEDS

Learning about chronic health conditions in early childhood equips teachers to be attuned to their impact on children's health and learning. Familiarity with the causes and impacts of special health needs also supports teachers in enrollment conversations with families. It prepares teachers to identify information they need to support the child's positive transition and participation in the classroom.

In the following sections, we provide an overview of a variety of medical conditions that affect young children. Examples of strategies used to manage each medical condition in the classroom are provided as a first step in understanding the many ways teachers support children with special health care needs. These suggestions do not replace the guidance provided by health care providers and early intervention specialists. Because most teachers do not have medical training, teachers



## TEACHING WELLNESS Same and Special

**LEARNING OUTCOME** Children will be able to identify characteristics of similarity and aspects of uniqueness.

### INFANTS AND TODDLERS

- **Goal:** To introduce the concepts of "same" and "different."
- **Materials:** Typical classroom manipulative toys, the book *It's OK to Be Different*, by Todd Parr.
- **Activity plan:** Take advantage of incidental learning opportunities to describe the concepts of "same" and "different." For example, when playing with cube blocks, set aside a pair of green cube blocks and one red cube block. Place the green cube blocks together and say, "Look. These are the same." Then pair a red and green

block and say, "These are different. See? One is green, and this one is red."

- **How to adjust the activity:** As children become familiar with the concepts of "same" and "different," ask them to choose a matching item from a group. Hold a blue block and ask the child to find one that is the same. Then ask the child to find one that is different. Read and talk about the book *It's OK to Be Different*.
- **Did you meet your goal?** Did the children listen to the questions? Can the children find objects that match?

### PRESCHOOLERS AND KINDERGARTNERS

- **Goal:** To explore the concepts of "same" and "different" and to discuss the concept of "uniqueness" and the notion of being special.
- **Materials:** Provide an array of creative materials such as yarn pieces, fabric scraps, magazine pages, construction paper; scissors; glue; the book *We Are All Alike, We Are All Different*, by the Cheltenham Elementary School Kindergartners and Laura Dwight.
- **Activity plan:** Offer the creative materials during free exploration time. Let children know that you will invite them to show their creations at group time. During group time, ask each child to talk about his or her creation. Then lay the pictures on the floor next to each other. Standing around the pictures, invite the children to talk about what is the same and what is different. Talk about aspects of uniqueness and describe how being different is a way of being unique or special.

- **How to adjust the activity:** Read the book *We Are All Alike, We Are All Different*. Use the book to introduce a discussion about same/special characteristics among people. As children offer suggestions, make lists of all the things children can identify that are the same about people and all the things that are different. Talk about ways that being the same is interesting and ways that being unique is interesting. Use other books to explore more aspects of same and special:
  - *Why Am I Special?* by Melissa Langer
  - *The Family Book*, by Todd Parr
  - *Me I Am!* by Jack Prelutsky and Christine Davenier
  - *I Am Special*, by Charlotte Lisi and David Ortega
- **Did you meet your goal?** Are children able to recognize and identify characteristics that make things the same and different? Are children able to list characteristics of similarity and difference among people?

### SCHOOL-AGE CHILDREN

- **Goal:** To explore the concepts of "same" and "different" and to discuss the concept of "uniqueness" and the notion of being special.
- **Materials:** Colored plastic mosaic tiles of various shapes, colors, and sizes; the book *This Is My Hair*, by Todd Parr.
- **Activity plan:** Provide colored plastic mosaic tiles of various shapes. Invite a small group of children to sort all the colored tiles by attribute: all the yellow triangles here, all the blue squares there, and so on. Ask the children to take one of each shape (or two or more of each shape if there are enough) to create a design. When children have finished, ask them to look at each other's designs. Are they the same? Different? Talk about how each child had the same shape, color, and number of tiles but each creation is unique and special.

- **How to adjust the activity:** Read the children's book *This Is My Hair*. Ask the children to draw a picture using the author's illustrative style that depicts their unique style. Display the drawings and conduct an "Illustrator's Interview": Ask each child to describe aspects of their drawing that are similar to others, but also to identify aspects that are unique. Talk about same and special characteristics among children in the class. Provide other books about these concepts to read:
  - *We're Different, We're the Same*, by Bobbi Kates
  - *It's OK to Be Different*, by Todd Parr
  - *I Just Am*, by Tom Lambke and Bryan Lambke
  - *I Am Special*, by Linda Schwartz
- **Did you meet your goal?** Are children able to describe characteristics that make things the same and different? Are they able to discuss aspects of unique and special?



work in partnership with medical providers, early intervention specialists, and families. This partnership carries the responsibility of planning, implementing, and monitoring appropriate management strategies to support the appropriate inclusion of children with special health care needs in the classroom environment and to address health needs that arise in the early childhood setting.

## Conditions Related to the Immune System

**immune system**  
the body system responsible for controlling infections and responding to foreign substances that enter the body

Children's immune systems are responsible for controlling infections and responding to foreign substances that enter the body. Dental caries, asthma, environmental allergies, and eczema are common health conditions associated with the immune system.

### Dental Caries

**dental caries**  
tooth decay or cavities

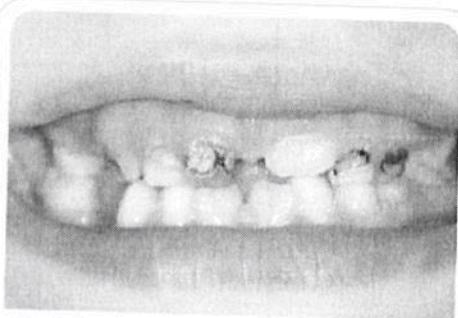
Dental caries affects 28% of children ages 2 to 5 years, and 72% of tooth decay remains untreated. This condition is a destruction of the tooth enamel caused by an interaction of bacteria, inappropriate feeding practices, lifestyle habits, and individual factors. Both primary and permanent teeth are affected and can be destroyed by the decay. Transmission of the bacteria that causes damage to the teeth is known to be from person to person, most commonly parent to child. The consequences of the disease are not limited to just the teeth, but can have widespread health effects over the course of a lifetime. It is more common in (Çolak, Dülgergil, Dalli, & Hamidi, 2013):

- Families living in poverty.
- Ethnic and racial minority families.
- Single-mother families.
- Families in which parents have low education levels.

Other more specific risk factors include consumption of sweetened liquids and candy, inadequate fluoride exposure, and infrequent toothbrushing. Children whose families live in poverty not only have more caries, but also have more complications such as abscesses (Lewis, 2014).

Fluoride is a mineral that aids in preventing tooth decay and strengthening enamel. Because caries is so common and destructive, many municipal water supplies are supplemented with fluoride as a public health strategy to prevent caries and/or halt the progression of caries. Some children may also be treated with fluoride in early childhood dental programs or schools.

**fluoride**  
a mineral that is sometimes found naturally but is also used for prevention and/or treatment of tooth decay



Dental caries are common and an important health condition of early childhood.

**Classroom Management Strategies** The early childhood setting is an important place to promote and practice oral health. The following oral hygiene activities should be followed routinely in child care settings (American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education, 2011):

- All children should have their teeth brushed at least once during their time there.
- Children should be given water after snacks and meals if brushing is not possible.

Oral health promotion is an important aspect of teaching young children. This can be achieved in the following ways

(American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education, 2011):

- Teachers can encourage parents to establish dental care within six months of the first tooth erupting.
- Children older than 3 years can be taught about tooth decay and appropriate dietary practices to prevent decay.
- Teachers can educate families about good oral hygiene and avoidance of behaviors that lead to decay.

## Asthma

**Asthma** is a respiratory disease characterized by intermittent attacks of cough or difficult breathing. It causes chronic inflammation of the small airways within the lung, resulting in a narrowing or obstruction of the airways. This narrowing causes children to cough or experience shortness of breath. Children with asthma may also wheeze, creating a high-pitched whistling sound typically heard with a stethoscope.

Asthma is the most common chronic disease in childhood, affecting 9% of children (Centers for Disease Control and Prevention, National Center for Health Statistics, 2015). Families living in poverty, minorities (especially African Americans), and children in urban areas have a higher risk of developing severe asthma, experience more hospitalizations from asthma, and have higher death rates due to asthma (Centers for Disease Control and Prevention, 2012). It is one of the leading causes of missed school days and accounts for 14.4 million missed days per year (Meng, Babey, & Wolstein, 2012).

**Triggers** are specific stimuli that cause an asthma attack (Table 11-1). Some of the most common triggers in children are upper respiratory infections, cigarette smoke, and environmental allergens such as pollens and dust mites. Every child with asthma has different triggers.

**Classroom Management Strategies** Teachers may be asked to assist children with asthma by administering medications. Two categories of medications are commonly used to treat asthma. One type is used *as needed* to open the airways when

### asthma

a condition causing narrowing and obstruction of the airways leading to chronic cough, shortness of breath, and wheezing

### wheeze

a high-pitched whistling sound made while breathing; commonly occurs in children with asthma

### triggers

stimuli that start an asthma attack

**TABLE 11-1 Common Asthma Triggers**

|                         |                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------|
| Indoor allergens        | Animal dander, dust mites, cockroaches, molds<br>Cleaning products                                     |
| Outdoor allergens       | Pollens from trees, grasses, weeds<br>Molds<br>Air pollutants<br>Cold or dry air<br>School bus exhaust |
| Other irritants         | Tobacco smoke<br>Strong odors or fumes from paint, perfumes, or fragrances                             |
| Health conditions       | Cold, flu, viruses<br>Sinus infections<br>Nasal allergies<br>Reflux                                    |
| Exercise                | More common in cold weather                                                                            |
| Foods or food additives | Some children have specific food triggers                                                              |





A nebulizer is used to treat asthma in infants, toddlers, and some older children.

#### **albuterol**

medication commonly used to open the airways when children have symptoms of asthma at the onset of an episode or as a rescue medicine

#### **inhaled corticosteroids**

a type of medication used to prevent episodes of asthma attacks; is used daily even when the child is not having symptoms

#### **nebulizer**

a small electronic device that is used to distribute medication as aerosolized droplets for inhalation by the child

#### **spacer**

a hollow plastic tube that attaches to an inhaler and holds aerosolized medication in a confined space while the child inhales the medication

#### **asthma attack**

episodes of asthma in which symptoms worsen and require immediate treatment to control breathing; characterized by shortness of breath, fast breathing, or worsening cough

the child has symptoms. **Albuterol** is an example of an as-needed medication. Nearly all children with asthma use this type of medication. The frequency of use depends on the severity and control of the child's illness. The other type of medication, which is used to *prevent* episodes, is given daily even when the child is not having symptoms. **Inhaled corticosteroids** are examples of *prevention* medications.

More common asthma medications are administered as a solution with a nebulizer or with an inhaler and spacer. A **nebulizer** is a small electronic device that distributes a solution into aerosol droplets, or spray, for the child to inhale. An inhaler with a spacer also administers medication to be inhaled but requires more coordination on the part of the recipient. To use an inhaler, the child must be able to put the inhaler in her or his mouth and inhale.

Typically nebulizers are used more often for infants and toddlers and inhalers are used for preschoolers and older children. To ensure that a child receives the medication most effectively, inhalers should *always* be used with a **spacer** regardless of age of the child. A spacer is a plastic tube that attaches to the inhaler and holds the aerosolized medication in a confined space while the child breathes in the droplets. Asthma medications may need to be administered several times a day.

Children with asthma may receive more than one medication, and the frequency of use may change. Periodic communication with the child's family and health care provider may be necessary to understand any changes in the prescribed plan.

Teachers are also important sources of recognizing when a child's asthma is uncontrolled and when a child is experiencing an **asthma attack**. Symptoms of uncontrolled asthma and asthma attacks are similar. Figure 11-2 lists symptoms for both circumstances. Asthma attacks can be life-threatening. Even when receiving treatment for asthma, children can still experience an asthma attack if exposed to a trigger. If symptoms of uncontrolled asthma or an asthma attack

### **FIGURE 11-2 Symptoms of Uncontrolled Asthma and Asthma Attacks**

#### **Symptoms of inadequately controlled asthma:**

- Persistent cough, especially with physical activity
- Prolonged symptoms after a respiratory tract infections
- Frequent respiratory tract infections
- Need for frequent use of albuterol or rescue inhaler

#### **Symptoms of an asthma attack:**

- Frequent or uncontrollable coughing
- Unable to speak in sentences
- Increased use of shoulders or abdominal muscles for breathing
- Audible wheezing
- Shortness of breath, especially if at rest



are observed, emergency treatment as directed by the child's medical provider should be followed immediately, and the family should be notified as soon as possible.

## Allergic Conditions

Along with asthma, allergies are one of the most common conditions of childhood. Allergies have many causes and can be manifested in a number of ways. They are categorized as food allergies, skin allergies (eczema), and respiratory allergies (hay fever).

**Food Allergies** Allergies to foods in children can be very serious and can lead to **anaphylaxis**, a severe life-threatening allergic reaction. The prevalence is 5.1% and increasing. Hispanic children are less likely to experience a food allergy, and the prevalence increases with higher income levels (Jackson, Howie, & Akinbami, 2013).

Classroom management strategies should include getting a detailed history from families on known food allergies and documenting the type of reaction the child has as well as the treatment in case of accidental ingestion.

## Skin Allergies

**Eczema** is a condition that causes inflammation and itching of the skin. It is characterized by chronically dry skin with periodic episodes of more intense skin rashes that are red, peeling, and very itchy. The most common areas for the rash are the face, backs of hands and feet, and skinfolds (back of knees and in front of elbows). Children with eczema may scratch constantly and have difficulty sleeping because of itching. Infants with eczema may be irritable and move about as they are trying to fall asleep. Children with eczema are prone to skin infections because the integrity of the skin is compromised.

Eczema varies in severity and tends to come and go. It is quite common, affecting 12.5% of children (Jackson et al., 2013). There are many causes of eczema, including food allergies. However, in most cases, the cause is unknown.

Classroom management strategies involve avoiding known triggers and judiciously keeping the skin moist with lotions recommended by a medical provider. Teachers may be asked to apply creams or lotions if children experience a flare-up. It is also important to reduce children's contact with strong soaps or detergents by selecting appropriate soap for children to use at the sink.

**Respiratory Allergies** Whereas skin allergies are more common in younger children, respiratory allergies are more common in older children. They are very common and can impact quality of life. Common symptoms of environmental allergies include runny nose, watery eyes, cough, headache, and fatigue.

One of the most important ways teachers can aid children with allergies is to help them avoid known triggers. Adjustments can be made for indoor and outdoor activities. Keeping the indoor environment clean to reduce dust and to discourage mold and mildew reduces these triggers. Children who have an allergy to grass can



Inhalers with spacers are used for preschoolers and older children.

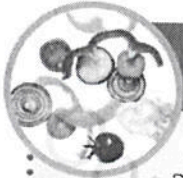
**anaphylaxis**  
a severe life-threatening allergic reaction

**eczema**  
a type of reaction seen on the skin that is characterized by red, itchy rash and dry skin

## A Matter of ETHICS

A 3-year-old child enrolled in your class has moderate to severe asthma. His parents are divorced, and they disagree on the management of the child's asthma in the classroom. The boy's mother wants to use conventional medical treatment, but the father wants to use homeopathic treatments. You get different instructions about what to do depending on who drops the child off at preschool. What are the issues here, and how can the NAEYC Code of Ethical Conduct and your state's program licensing requirements help you determine what to do? How do you think it is best to communicate with the family?





## NUTRITION NOTE Early Dietary Practices and Relationship to Allergies and Asthma in Children

Allergic diseases are becoming more prevalent. During the past several decades, asthma, eczema, and food allergies have increased significantly. To reduce the risk of future allergic disease, the American Academy of Pediatrics recommends breastfeeding exclusively for at least the first 4 to 6 months of life. Other allergic disease prevention practices are being studied. These include:

- Monitoring the diet of the pregnant and lactating mother. The mother's diet may be a factor in the child's future development of allergies. At this time, however, studies do not support the exclusion of certain foods, such as peanuts, during pregnancy or lactation.
- Using specialized "hydrolyzed" formulas in formula-fed children who have a strong family history of allergic

disease. Hydrolyzed formulas are "predigested," meaning the protein content has been broken down to make the product more digestible. There is evidence that allergic disease can be prevented or delayed by using hydrolyzed formulas instead of cow's milk-based formulas. It is still unclear whether this effect is long-lasting.

- Delaying introduction of solid food until at least 4 to 6 months. A variety of fruits and vegetables and, later, eggs, meats, and nuts can be introduced unless there is an indication not to. Choking hazards remain a concern during this time.
- Encouraging exclusive breastfeeding until 4 to 6 months of age. Exclusive breastfeeding has been shown to have the strongest beneficial effect for prevention of allergies and eczema.

Sources: Abrams & Becker, 2013; Duryea & Fleischer, 2014.

be encouraged to play in the area of the playground that is covered with mulch and to run and walk in the grassy area rather than sit on or touch the grass.

## Conditions Related to the Nervous System

Many chronic health conditions in childhood affect the nervous system or are caused by disorders of the nervous system. Although the effects of these conditions vary, they all have some effect on health and wellness in childhood.

### Attention Deficit Disorder and Attention Deficit/Hyperactivity Disorder

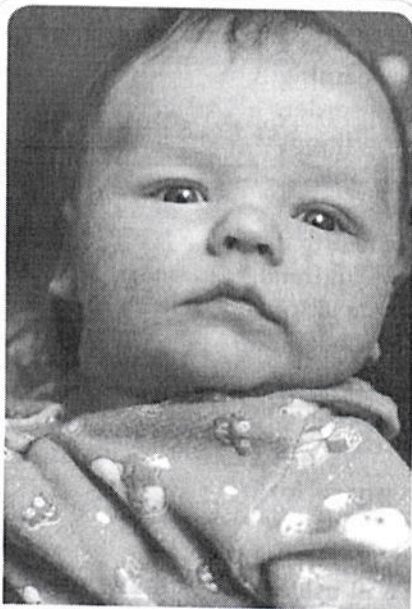
Attention deficit disorder (ADD) and attention deficit/hyperactivity disorder (ADHD) are conditions characterized by inattention, impulsivity, or hyperactivity. The causes are not completely understood. Other health conditions are strongly associated with ADD/ADHD, including structural brain abnormalities, history of prematurity, and prenatal exposure to toxins. ADD/ADHD can interfere with the attainment of academic and fine motor skills as well as social and adaptive skills. As a result, children with ADD/ADHD often experience school failure, poor family and peer relations, low self-esteem, and emotional, behavioral, and learning problems (Turnbull et al., 2013).

Estimates of children with a diagnosis of ADD/ADHD are 11%. Prevalence varies significantly by state. The lowest is 5.6% in Nevada, and the highest is 18.7% in Kentucky. Boys are 2.5 times more likely than girls to be identified (Centers for Disease Control, 2014b). Children born prematurely are also at increased risk for acquiring ADD. This could be due to a brain abnormality, such as the intracranial hemorrhage Jeremy's mother reported in the case scenario, or there could be subtle developmental effects on the infant's neurological system.

Three types of conditions fall under the ADD and ADHD categories: *predominantly inattentive* (ADD), *predominantly hyperactive-impulsive* (HD), and *combined* (ADHD). Behaviors and characteristics of children with ADD/ADHD are described in Table 11-2. In addition

attention deficit disorder/attention deficit/hyperactivity disorder

condition causing inattention, increased distractibility, inability to focus and complete tasks, and sometimes hyperactivity



Children with eczema are more likely to contract skin infections.

Acrady Chubky/Fotolia



TABLE 11-2 Characteristics of ADD and ADHD

**Attention Deficit Disorder**

Is unable to sustain attention while executing tasks or participating in activities

Appears to not be listening when spoken to

Fails to follow through with instructions frequently

Fails to finish schoolwork

Loses things frequently

Is often forgetful with regard to usual daily activities

Is easily distracted

Makes careless mistakes

Is unable to perform tasks that require sustained mental effort

**Hyperactive-Impulsive Type**

Fidgets or moves in their seat constantly

Talks excessively

Leaves seat when it is expected that they stay in their seat

Runs or climbs inappropriately

Answers questions before it is time

Cannot wait their turn

Interrupts others constantly

Acts out without thinking

Rushes through activities

Source: American Psychiatric Association, 2013.

to frequently displaying these symptoms, the symptoms should be observed in two or more settings, such as at school and at home. In addition, the symptoms must be seen as impairing social or academic functioning. It can sometimes be difficult to distinguish between normal childhood behaviors and ADHD. Children with ADHD may also share some traits associated with giftedness.

Children with ADD often have symptoms of other conditions that affect learning and behavior, such as learning disabilities, behavioral disorders, conduct disorder, mood disorder, anxiety, or depression. Concerns regarding these health conditions should be communicated to families and health care providers.

Children with ADD are eligible for development of a behavioral management plan under the IEP process. In 1991, the Department of Education confirmed that ADHD is considered within the scope of the IDEA (Turnbull et al., 2013). Children with ADHD may also qualify for special education services under the diagnosis of emotional disturbance, which requires a comprehensive evaluation that meets federal and state requirements. Children who do not qualify for services under the IDEA may be eligible under Section 504 of the Rehabilitation Act. ADHD is considered a disability under Section 504 when the child is substantially limited in a major life activity.

**Classroom Management Strategies** Teachers provide a variety of supports for children with ADD/ADHD. Teachers may be asked to respond to questionnaires that evaluate the child's symptoms in the classroom setting. Adjustments for children may include seating in a quiet area; more time to complete work; and use of materials to aid in organizing and planning, providing tutoring supports, or modifying homework (Turnbull et al., 2013).



**stimulants**

medications used to increase focus and decrease distractibility for improving school performance and relationship building in children with ADHD

**autism**

neurological condition characterized by impairments in social interaction and communication as well as restrictive, repetitive, or stereotypical patterns of behavior

**pervasive developmental disorder (PDD)**

disorder associated with developmental delays; abnormal or delayed social interactions; and in some circumstances, a restricted range of interests

**Asperger's syndrome**

neurological disorder characterized by normal intelligence, poor peer relationships, lack of empathy (similar to but milder than autism), language skills that are generally stronger than in PDD, and a tendency to overfocus on certain topics or objects (for example, planets and geography)

Behavioral therapies may be recommended to assist children in functioning effectively in the classroom. Some children will also be prescribed medications such as **stimulants**, which may need to be administered during the day. These medications can decrease challenge behaviors by increasing focus and decreasing distractibility. The ultimate goal is to improve school performance and relationship building. Although extensive literature demonstrates that the use of these medications is safe and effective, they may not be the most appropriate form of treatment. Several trials of different dosages, medications, and timing intervals may be necessary before the best treatment for an individual child is identified. Modifications made in the classroom and counseling for families to improve parenting strategies are critical in the treatment of this condition.

## Autism

**Autism** is the most common condition in a group of developmental disorders called the *autism spectrum disorders* (ASDs). Autism is a condition that involves impaired social interactions; communication problems; repetitive behaviors; and in some circumstances, a restricted range of interests. Other conditions in the ASDs include Asperger's syndrome and **pervasive developmental disorder (PDD)**. The cause of autism is unknown, although it appears to have a strong genetic component. There has been a steady increase in prevalence, which is now 1% to 2%, and it is more common in boys (Harrington & Allen, 2014).

**Symptoms** Children with autism exhibit six distinctive characteristics (Turnbull et al., 2013):

- Atypical language development
- Atypical social development
- Repetitive behaviors
- Behavior problems
- Sensory and movement disorders
- Atypical intellectual functioning

Table 11-3 lists more specific characteristics typically seen in children with autism.

One of the ASDs is called **Asperger's syndrome**. Children with Asperger's typically have normal intelligence. They have difficulty establishing peer relationships and lack empathy (similar to but milder than autism). They have language skills that are generally stronger than in other types of PDDs, and tend to perseverate on certain topics or objects.

Controversy exists regarding the cause of the increase in cases diagnosed. Some believe that more frequent diagnosis is due to better recognition of the condition and that children with the condition in the past were misdiagnosed as being mentally retarded. Others are of the opinion that the rates of autism are increasing. The Centers for Disease Control is conducting ongoing surveillance studies to track prevalence rates to better clarify this issue.

The onset of autism occurs during the first three years of life; typically children are diagnosed by age 3. Therefore, many children with autism have been diagnosed by the time they enter the public school system. Children with mild autism or Asperger's syndrome, however, may not be diagnosed until the elementary school years.

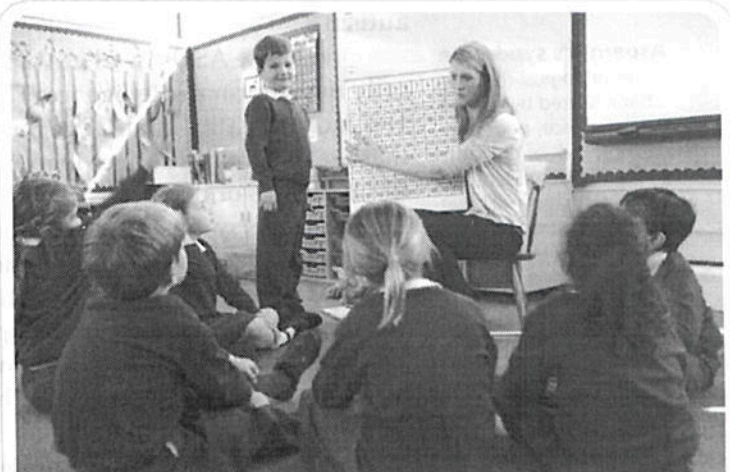
TABLE 11-3 Characteristics of Children with Autism

| Characteristic                         | Examples                                                                                                                                                                                         |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Atypical language development          | <ul style="list-style-type: none"> <li>• Broad range of language abilities</li> <li>• Focusing on one topic</li> <li>• Repeating or echoing</li> <li>• Reversing pronouns</li> </ul>             |
| Atypical social development            | <ul style="list-style-type: none"> <li>• Abnormal use of nonverbal language</li> <li>• Lack of relationships with peers</li> <li>• Unable to share enjoyment or interests with others</li> </ul> |
| Repetitive behavior                    | <ul style="list-style-type: none"> <li>• Hand and finger mannerisms</li> <li>• Repeating phrases</li> <li>• Persistent attention to parts of objects or toys</li> </ul>                          |
| Behavior problems                      | <ul style="list-style-type: none"> <li>• Self-harm</li> <li>• Aggressive behavior</li> <li>• Tantrums</li> <li>• Destruction of property</li> </ul>                                              |
| Sensory and movement disorders         | <ul style="list-style-type: none"> <li>• Food selectivity</li> <li>• Toe walking</li> <li>• Sleep problems</li> <li>• Abnormal posture</li> </ul>                                                |
| Problems with intellectual functioning | <ul style="list-style-type: none"> <li>• 75% have intellectual disability</li> </ul>                                                                                                             |

Source: Information from Turnbull, Turnbull, Wehmeyer, & Shogren, 2013.

**Classroom Management Strategies** The evaluation of autism is often a stressful and anxiety-provoking situation for families. Teachers are part of the support system for families during this evaluation period. Providing information about autism and offering opportunities for families to discuss their concerns are ways in which teachers can lend support. When children are diagnosed, teachers are important partners in developing an effective IEP. The goals of the IEP are to reinforce children's desirable behaviors, improve social skills and communication, and reduce nonadaptive behaviors such as aggression or inappropriate angry outbursts. Providing regular routines and a predictable schedule are important, as is supporting children when schedules vary.

Strategies involve teaching children communication skills, such as helping Mike recognize when Alan is asking to share a toy by saying, "Mike, turn your head to look at Alan. He has a question for you." Teaching children imitation skills is another step in helping them to recognize social cues. Supporting the child to play Follow the Leader games is a familiar example of teaching imitation in the early childhood setting. Providing visual cues such as picture cards or pointing to posters that depict an action are often effective ways to support verbal directions. The greatest success occurs when these strategies are consistently used both at school and at home.



Visual cues are often an effective way to support verbal directions for children with autism.



Teachers are also an important link in connecting families to resources that help them cope with the challenges of autism. There is no cure for autism. However, strategies are available to reduce the impact of symptoms and to improve children's functioning. Interventions provided during the early childhood years are considered critical to improving the symptoms of autism.

### Learning Disabilities

**learning disability**  
term used to describe a condition in which there is a specific and persistent failure to learn age-appropriate academic skills despite normal intelligence, conventional teaching, and adequate sociocultural opportunities

**dyslexia**  
disorder of reading where children frequently omit, insert, reverse, or substitute words or sounds

A **learning disability** is a disorder in one or more of the processes in charge of understanding or using spoken or written language (Turnbull et al., 2013). Learning disabilities include a number of specific disabilities reflecting difficulties in learning reading, writing, and/or mathematics skills. The most common is **dyslexia**, a disorder of reading in which children frequently omit, insert, reverse, or substitute words or sounds. The causes are generally unknown, although there is a strong genetic component for certain types of learning disabilities such as dyslexia.

Problems commonly seen in the classroom in children with learning disabilities include the following (Heward, 2013):

- Reading difficulties or learning how to read later than expected.
- Problems with written language including spelling.
- Problems with math.
- Problems with social skills (occurs in about 75% of children with learning disabilities).
- Problems with attention and hyperactivity.
- Behavioral problems.

**Classroom Management Strategies** The least restrictive environment as described by IDEA applies to children with learning disabilities. Research demonstrates mixed results with inclusion of children with learning disabilities in the general classroom, and some controversy exists. Generally the quality of education is more important than where the education occurs (Heward, 2013).

Besides specific teaching strategies related to inclusion, teachers' input plays an important role in identifying children with learning disabilities. There is no one test that is diagnostic. Generally it is a compilation of information gained from parents and teachers along with testing done by the school system that aids in the diagnosis made by specialists.

### Cerebral Palsy

**cerebral palsy**  
a disability causing problems with motor development

**Cerebral palsy (CP)** is a condition that permanently affects movement and posture, which cause physical limitations. It is the most common motor disability of childhood, affecting 1.5 to 4 per 1,000 children (Centers for Disease Control and Prevention, 2015b). It is caused by problems that occur in brain development before, during, or after birth. Being born prematurely and being small for gestational age are risk factors for developing CP.

Children with CP have problems with movement that affect muscle tone and with the brain signals that promote movement and coordination. Some children have minimal challenges, whereas others experience extensive challenges. Children with CP often experience developmental delays and frequently have other health conditions such as visual problems, hearing loss, speech problems, seizures, feeding difficulties, learning disabilities, and intellectual disability. Children with CP may move with a walker or use a wheelchair. They may have trouble with small

motor coordination, making it difficult to hold small items and to learn to write. Children with CP may experience difficulties with speech. Different classifications of CP are based on the type of movement difficulties and the part of the body that is affected. Over half of children with CP can walk independently (Centers for Disease Control and Prevention, 2015b).

**Classroom Management Strategies** Children with cerebral palsy experience a wide variety of type and severity of symptoms. Teachers should learn about the child's needs for adjustments in the classroom environment to accommodate the child's movement in the setting. Understanding how the child communicates is also important because children with CP may use various communication methods, such as a picture board, digital communication device, or keyboard. An educational assistant who works with the lead teacher to manage any medical interventions and to modify the learning environment appropriately supports many children with CP in the classroom. Speech and physical therapists are usually partners in supporting the child's educational plan.

### Fetal Alcohol Spectrum Disorder

**Fetal alcohol syndrome (FAS)**, now identified as fetal alcohol spectrum disorder, is a set of neurological conditions caused by exposure to alcohol during pregnancy. The prevalence is largely unknown. Reported alcohol consumption during pregnancy is common, occurring in 1 in 8 pregnancies, and 2% of pregnant women report heavy drinking during pregnancy (Centers for Disease Control and Prevention, 2015a). This condition has lifelong, severe effects on the fetus, affecting a child's physical, emotional, and neurological development. The following are characteristics of the disorder (May et al., 2014):

- Abnormalities in the structure of the face.
- Growth deficiency.
- Central nervous system abnormalities, including small head circumference, neurological problems, cognitive/developmental deficits, and behavioral/emotional deficits.

The facial abnormalities seen in FAS include a smooth **philtrum** (the fold typically seen between the nose and upper lip), a thin upper lip, and small eyes, all of which may be obvious in some individuals and subtle in others. Central nervous system abnormalities range from severe structural abnormalities of the brain to mild cognitive deficits.

Some children exposed to alcohol do not meet the full criteria for FAS. The term *fetal alcohol spectrum disorders* encompasses the range of disabilities associated with exposure to alcohol *in utero* and includes the diagnosis **alcohol-related neurodevelopmental disorder (ARND)**. The ARND diagnosis is often used when there is a history of alcohol exposure but the child does not meet all of the official criteria for FAS.

Children with FAS often struggle with attention, memory, and learning, which leads to difficulties in school. It is common to see other health conditions such as hearing and vision disorders, seizures, intellectual disability, abnormal relationships with peers, and deficits in judgment and decision making (May et al., 2014).

**Classroom Management Strategies** In spite of the wide range of potential behavioral challenges, many children with FAS are described as outgoing, friendly, and socially engaging. Most children with FAS do not qualify for special education services.

**fetal alcohol syndrome (FAS)**

neurological condition causing a range of physical and developmental outcomes that occur as a result of fetal exposure to alcohol

**philtrum**

the fold typically seen between the nose and upper lip

**alcohol-related neurodevelopmental disorder (ARND)**

neurological condition covering a spectrum of symptoms that can occur with fetal exposure to alcohol; diagnosis is often used when there is a history of alcohol exposure, but the child does not meet all of the official criteria for FAS





Children with FAS often have subtle characteristics such as a smooth philtrum and a thin upper lip.

#### **executive functioning**

a set of cognitive skills involved in planning, inhibition, concept formation, and reasoning

#### **intellectual disability**

significantly subaverage intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period; adversely affects a child's educational performance; term used previously was *mental retardation*

#### **adaptive behavior**

skills children learn to function in everyday life, including language, social skills, and skills relevant to activities of daily living

#### **short-term memory**

information stored for a few seconds to a few hours

As they plan to teach children with FAS successfully, many teachers find evaluation of children's **executive functioning** to be helpful. Executive functioning refers to children's ability to function in a school setting with respect to planning, organization, and attention.

Teachers focus on teaching skills that build children's self-help skills to navigate the daily routines of the classroom. Detailed visual cues and prompts are used to make abstract concepts more concrete and to reinforce directions such as "Time to clean up" and "Time to wash hands." Teachers work to reduce distractions and to help children with FAS focus on tasks and skill-building activities. Teachers also provide immediate feedback for appropriate and inappropriate behaviors.

### **Intellectual Disability**

**Intellectual disability** is the most common developmental disability. This condition was previously referred to as cognitive disability or mental retardation, a term that is no longer used because of stigmatization. It is characterized by a significantly below-average score on a test of intellectual ability and by limited ability to function in the tasks of daily life such as caring for oneself, communicating, and managing social interactions.

Intellectual disability can result from genetic conditions and developmental causes before birth, as well as injury, infection, or illness occurring at birth or during childhood. The most common causes of intellectual disability are Down syndrome, fetal alcohol syndrome, and fragile X syndrome. These are examples of prenatal influences leading to the condition.

Intellectual disabilities are often associated with environmental or biological causes. Environmental causes tend to be exhibited through mild expressions of disability, whereas severe disease is more likely linked to biological causes. Risk factors also exist. Children with mild intellectual disability are more likely to have mothers who did not complete high school, linking the disability to genetics and to environmental influences such as poverty and other social issues. Poverty is more highly associated with intellectual disability than is any other social factor (Turnbull et al., 2013).

Children with intellectual disabilities exhibit a wide range of challenges. **Adaptive behaviors** are challenging for children with intellectual disabilities. Adaptive behaviors refer to the skills children learn to function in everyday life. These include language skills; social skills such as taking turns and sharing; and self-help skills relevant to activities of daily living, such as dressing, bathing, and brushing teeth. There are three aspects of adaptive behaviors (Turnbull et al., 2013):

Conceptual skills such as language, reading, writing, understanding of money, and self-direction.

- Social skills, including following rules, being responsible, and having self-esteem.
- Activities of daily living.

Many children with intellectual disabilities also have problems with **short-term memory**, the information that is stored for a few seconds to a few hours. For example, in the kindergarten classroom, Rachel has been teaching 5-year-old Zane to count by pointing to each block and saying the counting words, "One, two, three,



four, five.” At the end of the counting session, Zane is able to point and count to five. When asked, “How many blocks all together?” Zane responds, “Five!” The next day when Rachel prepares to practice the counting lesson using toy animals, she discovers that Zane is unable to repeat the counting task from the previous day. She recognizes that Zane associates the counting task with blocks, but he cannot generalize the process when using new props.

**Classroom Management Strategies** Children with intellectual disabilities vary greatly in the supports needed for successful inclusion in the classroom. Some children may need assistance with many aspects of their participation and to ensure that they are sufficiently supervised for safety. A classroom education assistant may be needed to support and teach the child individually in the larger class group. Children with milder intellectual disabilities may require more modest assistance and can be supported by adapting the typical curriculum. Adaptations may include offering a slower pace so that children can explore and try new concepts and providing more specific guidance to ensure that children understand directions.

For very young children, the focus in the classroom is on developing social interaction and self-help skills. This includes providing specific guidance or age-appropriate modeling and “lessons” about topics such as how to ask for help, how to express needs, how to share a toy, and how to wash hands and serve food. For older children, the focus in the class moves toward developing communication and personal care skills and academic skills such as reading, writing, and basic math.

### Lead Exposure and Poisoning

Lead poisoning is a condition caused by ingestion or inhalation of lead. Lead is toxic to most body systems especially the nervous system. Lead can build up in the body over time, causing lead poisoning that can lead to cognitive impairment in young children. Most children with lead exposure or poisoning do not have symptoms. But if they do, symptoms include gastrointestinal complaints such as loss of appetite, nausea, vomiting, abdominal pain, or constipation. At high levels of exposure, lead poisoning can be lethal and result in **encephalopathy**, brain injury due to a toxin or an infection.

**encephalopathy**  
brain injury due to a toxin or an infection

The most adverse effect of lead poisoning is on cognition and intelligence. However, lead can have adverse effects on multiple systems in the body. Lead poisoning is preventable. During the past few decades, the Centers for Disease Control has lowered the acceptable threshold of levels of lead in the blood, stating that no level of lead in blood is safe and the primary focus should be on prevention.

Young children are at risk for lead exposure because of their mouthing behaviors and because they absorb and retain more lead relative to their body weight compared with adults. Children who are not well nourished and have nutritional deficiencies, such as a child with an iron deficiency, may be at increased risk for lead poisoning. Lead poisoning is diagnosed through blood testing that is obtained because of concern that the child was at risk for exposure. The prevalence of high lead levels in children ages 1 to 5 is about 1.6%. The primary sources of lead are the following (Ball, Bindler, & Cowen, 2012):

- Lead paint (banned in 1978) present in buildings or homes. Paint may chip, and children can ingest or inhale particles.
- Airborne lead from gasoline that has contaminated soil.



- Parental occupations/hobbies (plumbing, battery manufacturing, furniture refinishing, pottery).
- Water from lead pipes.
- Toys.

**Classroom Management Strategies** Early childhood settings can contribute to prevention of lead poisoning primarily by:

- Establishing classroom environments that reduce exposure to lead.
- Administering lead exposure questionnaires to identify children who may be at risk for lead exposure.
- Educating families about the dangers of lead exposure.

Children who may have been exposed to lead sources should be referred to their primary care provider or public health department for further evaluation.

### Spina Bifida

**spina bifida**  
a defect of the vertebral column or spine causing the contents of the spinal cord/nervous tissue to protrude

**Spina bifida** is a defect of the vertebral column, or spine, that causes the contents of the spinal cord nervous tissue to protrude and consequently fail to develop normally. This is also known as neural tube defects. It occurs very early in prenatal development, just weeks after conception. Folic acid deficiency is thought to be associated with spina bifida, and in 1998, the U.S. Department of Agriculture mandated adding folic acid to enriched cereal grain products. Subsequent to fortification, the prevalence rate decreased by 31% and is now about 5 per 10,000 births (Centers for Disease Control and Prevention, 2014a). The degree to which spina bifida affects children's overall health depends on the location of the defect: The higher the defect in the spinal column, the more severe the effects.

Common health issues associated with spina bifida include (Heward, 2013):

- **Hydrocephalus** (too much fluid around the brain, requiring a shunt).
- Seizures.
- Varying degrees of paralysis of lower limbs.
- Varying degrees of bladder and bowel control; some children may require intermittent **catheterization** of the bladder, a process by which a small tube is placed by the caregiver or child through the urethra into the bladder to remove urine.

**hydrocephalus**  
too much fluid in the chambers of the brain, requiring a shunt

**catheterization**  
process of placing a small tube through the urethra into the bladder for the removal of urine

Children may require surgery soon after birth to close the gap in the spine. Surgery may also be needed to manage problems with the feet, hips, or spine. Some children may need assistive supports for walking, such as crutches, leg braces, or wheelchairs. It is common to have trouble with bladder and bowel control. They may experience problems with perceptual motor skills; cognitive skills such as attention, memory, sequencing, and organization; and hyperactivity or impulse control.

**Classroom Management Strategies** Supporting children with spina bifida in the classroom requires that teachers have an understanding of the child's strengths and needs, medical support requirements, and strategies that support inclusion. Details of a child's condition are often determined through psychological and neuropsychological evaluations. Findings of these assessments guide the development of the child's IEP. Teachers work in partnership with the child's medical provider, early interventionists, and families to identify goals and to plan adjustments in the classroom.

The physical spaces need to be reviewed to ensure that children will be able to move throughout the classroom and access the outdoor play area. Children may need to be oriented carefully to the schedule and routines and provided extra time and support when changes in the routine must be made. Some medical supports may be required, such as periodic catheterization to ensure children's bladder health. More than half of children with spina bifida will develop a latex allergy, so it is important to keep the classroom latex free, including gloves, balloons, and other toys (Ball et al., 2012).

The IEP provides focus for teaching, such as needed skills in verbal communication, social skills and behavior management, motor skills, and academic areas. As with all children with special health needs, the focus in the classroom is on assisting the child to experience positive social interactions with other children and to be a part of all classroom activities.

## Conditions That Are Genetic

Genes influence most aspects of health. For example, children with certain genes are more prone to develop allergies or asthma. Other health conditions are caused by defects in specific genes. These conditions may or may not be inherited. In this section, we discuss some of the conditions that have strong genetic connections, including cystic fibrosis, sickle cell anemia, diabetes mellitus, and others.

### Cystic Fibrosis

**Cystic fibrosis (CF)** is an inherited disease that affects the lungs and digestive system. A defective gene causes the body to create thick, sticky mucus that clogs the lungs and obstructs the digestive process. This results in progressive respiratory and nutritional problems that lead to severe respiratory infections and premature death. In addition to the chronic respiratory problems, children with CF tend to exhibit poor growth and malnutrition due in part to insufficient pancreatic function.

CF is most common among Caucasians, occurring in 1 in 3,200 live births. Among African Americans, CF occurs in 1 in 15,000 births; among Asians, the rate is 1 in 31,000; and in Hispanics, it is 1 in 7,000 (Ball et al., 2012). Cystic fibrosis is often diagnosed before age 2, largely because of newborn screening (Paranjape & Mogayzel, 2014).

Children with CF display a number of symptoms:

- Persistent coughing, occasionally spitting up thick mucus.
- Shortness of breath and wheezing.
- Frequent lung infections.
- Poor growth and delayed weight gain.
- Difficulty with bowel movements or frequent greasy stools.

Children with CF typically undergo therapy during which the chest is vigorously thumped to dislodge mucus. This kind of treatment may be required during the day. They may also require frequent courses of antibiotics that are sometimes given intravenously. This may or may not require hospitalizations.

In spite of a good appetite, children with CF need to consume a large number of calories to keep up with nutritional requirements because they have significantly increased energy expenditures from respiratory effort. They are typically treated with medications, including inhalers to improve breathing and pills that help them digest food.



Pearson Education

### CLASSROOM CONNECTION

Watch this video about Carly, a young child born with a genetic condition. What kinds of accommodations could be used in the classroom to promote Carly's health and wellness?

**cystic fibrosis**  
a genetic condition causing chronic pulmonary infections, growth failure, and premature death



**Classroom Management Strategies** Most children with CF are eligible for services under the IDEA. Teachers work in partnership with medical providers, early interventionists, and parents to support the inclusion of children with CF in the classroom. Understanding the effects of the disease helps to identify appropriate supports. For example, it is important to recognize that children with CF need to cough frequently and are highly susceptible to respiratory infections.

Administration of medication may be required. Time should be provided to administer or allow the child to take the medication and to conduct activities or treatments to clear the airway. An appropriate space should be identified to help the child feel comfortable.

An emergency medical response plan should be drafted to provide appropriate response when needed. Regular attendance may be an issue for children with CF depending on the severity of the disease. For school-age children, teachers work with families to optimize learning by arranging appropriate homework so that the children can make up the work they missed.

### Sickle Cell Anemia

**sickle cell anemia**  
an inherited disorder of red blood cells that causes chronic anemia, pain, and susceptibility to infection

**Sickle cell anemia** is a genetic condition that is inherited from both parents. It affects the integrity of red blood cells, causing them to have a much shorter life span than they would normally and to be *sickle-shaped*, hence the name of the condition. The condition leads to anemia, chronic pain, and susceptibility to infections. It is most common in African American children.

The severity of the disease varies and has improved with earlier diagnosis due to newborn screening, antibiotics, and parent education. The chronic anemia that occurs with sickle cell anemia can lead to developmental delays if not carefully managed. The disease is also characterized by acute pain crises that can be precipitated by dehydration and cold weather. The symptoms include pain, swelling of joints, or abdominal pain. A child with a sickle cell crisis needs urgent medical attention. Many children require blood transfusions and hospitalizations to treat complications of the condition.

**Classroom Management Strategies** The teacher's main role will be to report any complaints of pain or other physical health problems to the parents and school nurse, if appropriate. Children with sickle cell anemia may also miss school days due to illness or hospitalizations, and special considerations should be made to help them make up work. In addition, chronic pain can cause poor peer relationships and problems with self-esteem. Teachers can be an important support system for children and families.

### Diabetes Mellitus

**diabetes mellitus**  
a disorder of insulin metabolism causing long-term health problems

**insulin**  
hormone secreted by the pancreas that is essential for the metabolism of glucose and fat

**Diabetes mellitus** is a chronic medical condition that occurs when the body does not produce or appropriately use **insulin**. Insulin is a hormone that breaks down sugars, starches, and fats into food energy. The body's failure to produce insulin results in elevated blood glucose levels, which has detrimental impacts on the body's organ systems. Left untreated or poorly managed, diabetes can result in many long-term health consequences, including nerve damage, loss of vision, kidney failure, heart problems, circulatory problems that may require amputation, and early death.

**Type 1 Diabetes** Type 1 diabetes is brought about by a combination of genetics and immunity. Individuals with certain types of genes are prone to develop

diabetes. The condition develops when these individuals experience an **autoimmune condition** that causes them to develop antibodies against their own pancreas, resulting in the destruction of cells that produce and secrete insulin. Without sufficient insulin, body cells are not able to use glucose (sugar) to fuel the body. Children with Type 1 diabetes require administration of insulin through injection or through an insulin pump.

**autoimmune condition**  
causes individuals to secrete antibodies against their own organs

Children who develop diabetes tend to become ill very quickly. Symptoms include:

- Frequent urination.
- Excessive thirst.
- Fatigue.
- Irritability.
- Blurred vision.

In the early childhood setting, children with diabetes may have a noticeable increase in frequency of urination, requiring more frequent diaper changes, or urinary accidents.

Careful management of diabetes and a healthy lifestyle reduce the impact of the disease and improve children's long-term outlook. Treatment involves testing blood sugar levels, administering injections of insulin, and offering a specialized diet and exercise program. Eliminating the need to administer injections, many children now wear an insulin pump that injects insulin. A nutritionally balanced diet is needed, and aspects of the diet must be monitored, such as the kinds and amounts of foods eaten and the timing of meals and administration of insulin injections.

After diagnosis, children with diabetes and their families require a good deal of support and education about the disease. It can sometimes take several weeks to months to establish a treatment regimen, which may be frustrating for families and caregivers. In addition, as children grow, their regimen will change based on changes in caloric intake, physical activity, and rate of growth. For these reasons, children with diabetes require careful monitoring by their medical provider as well as a specialist in diabetes management. See this chapter's *Progressive Programs & Practices* feature for an interesting case scenario involving a child with Type 1 diabetes.

**Type 2 Diabetes** Type 2 diabetes results from the body's inability to use insulin properly so that the body becomes resistant to insulin. Compared with Type 1, this type of diabetes is less common among young children. Type 2 diabetes typically occurs in later childhood and among older people who are obese and who have a strong family tendency toward Type 2 diabetes. Type 2 diabetes is influenced by a family history of diabetes, obesity, and sedentary lifestyle. Some racial groups are at greater risk for developing Type 2 diabetes, including African Americans, Hispanic/Latino Americans, American Indians, and some Asian Americans and Native Hawaiians or other Pacific Islanders.

Establishing healthy nutritional and physical activity habits early are prevention efforts that may reduce the incidence of Type 2 diabetes. Although this condition is uncommon during the early childhood years, it is important for teachers to understand that the habits and sequence of events leading to the condition begin in early childhood. Besides the prevalence of Type 2 diabetes increasing in children, the average age of onset is becoming younger and disproportionately affects minorities (Dileepan & Feldt, 2013).





## PROGRESSIVE PROGRAMS & PRACTICES

### Accommodating Nate (Type 1 Diabetes)

By Jamie M. Wincovitch, Classroom Teacher at the University Child Development Center, University of Pittsburgh

The University Child Development Center (UCDC), a laboratory school at the University of Pittsburgh, serves children from birth to 5 years of age. We have approximately 160 families at any given time with 12 classrooms.

#### What challenge did you face?

We had a 2-year-old enrolled who was energetic, full of life, and an amazing communicator. While in a toddler classroom, he started to show symptoms uncharacteristic of his typical behavior. He was easily fatigued, was using the bathroom excessively, and had excessive thirst. Soon after, Nate was diagnosed with Type 1 diabetes.

#### How did you meet the challenge? What was the teachers' role?

Nate used an insulin pump (a small battery-operated insulin-delivering device, worn on a belt or in a pocket, with a narrow plastic tube inserted just under the skin and taped in place). All carbohydrates he consumed had to be counted. Although the pump then calculated how much insulin to deliver, a teacher had to decide how much would be delivered immediately and how much would be distributed over time, depending on the fat content and nutritional makeup of the food consumed. The classroom teachers were trained extensively by the parents and the Children's Hospital of Pittsburgh on how to make these decisions and care for a child with these diverse needs.

Initially, teachers were nervous about this responsibility, but over time, the process of caring for Nate became second nature.

I actually prided myself in my newfound ability to know the carbohydrate count of almost any amount of any food.

To create a classroom climate that was inclusive, we aimed to provide Nate with care that didn't make him feel "different." For example, we put Velcro name stickers on chairs for assigned seating that changed daily. This ensured, discreetly, that Nate was always near a teacher so that she could monitor food intake without forcing him to sit by a teacher every day while other children had free choice. We eat family style, so children are able to scoop their own food onto their plates. We replaced all serving spoons with measuring cups so that Nate didn't feel isolated when a teacher recorded how much he consumed.

Nate's blood sugar level had to be tested every few hours (typically five or six times a day), which required pricking his finger with a pin, squeezing a small amount of blood onto a glucose testing strip, and inserting it into a blood glucose meter. Nate was very cooperative and verbal, excellent at telling us how he was feeling, which helped notify us of his changing needs.

#### What was the outcome?

This all sounds so intense and medical, but in reality, Nate was a typical preschool child with typical preschool needs. He sometimes struggled resting quietly at nap time, he loved anything math, and he loved being silly. Yes, the medical part was always present, but as teachers, we worked really hard at making sure Nate was thought of as a preschooler (with Type 1 diabetes), not a diabetic kid. It makes a *big* difference!

**Classroom Management Strategies** Children with diabetes typically require no special adjustments for participation in the classroom and academic success. The medical management of the disease in the classroom is the most important area of focus. Management of diabetes requires a clear understanding of the child's medical protocols. Teachers require training on how to test blood sugar levels, how to adjust the kinds and quantities of food served, how to administer insulin injections, and how to recognize and manage emergencies such as administering glucagon treatments. A medical provider directs these practices. Teachers should receive formal training and supervision as they implement the child's medical plan. Two complications are important to recognize for management of diabetes:

**hypoglycemia**  
a low blood glucose level  
measuring less than 50 to 60  
mg/dl

- **Hypoglycemia** occurs when the blood sugar level is low (less than 50 to 60 mg/dL). It can be caused by missing or delaying meals, taking too much insulin, or exercising strenuously (Heward, 2013). Symptoms include faintness, dizziness, blurred vision, drowsiness, nausea, and irritability. Treatment entails giving the child concentrated sugar such as a sugar cube or a glass of fruit juice.



- **Diabetic ketoacidosis (DKA)** is a common but life-threatening complication of diabetes. It occurs when blood sugar levels remain high over a period of time as a result of insufficient insulin or sometimes due to illnesses. Symptoms include elevated blood sugars, excessive thirst and urination, unusual odor to breath (smells like acetone/nail polish remover), and lethargy or weakness. Emergency medical personnel should be contacted immediately if DKA is suspected.

#### diabetic ketoacidosis (DKA)

a life-threatening complication of diabetes that occurs when blood sugar levels remain high over some period of time

The demands of diabetes often influence children's social and emotional well-being, affecting their learning and peer relationships. Table 11-4 shows guidelines that were established by the American Diabetes Association to optimize diabetes care in schools.

### Down Syndrome

**Down syndrome** is one of the most common causes of intellectual disability. Down syndrome is also known as trisomy 21 because it occurs when the child has an extra 21st chromosome. Children with this condition usually have some degree of cognitive impairment; reduced muscle tone; and characteristic facial features such as almond-shaped eyes, small chin, and flat nasal bridge. Children with Down syndrome often suffer from associated health problems, including:

#### Down syndrome

a genetic condition whereby an individual's 21st chromosome has an extra segment, causing increased risk of heart problems, cognitive impairment, and short stature

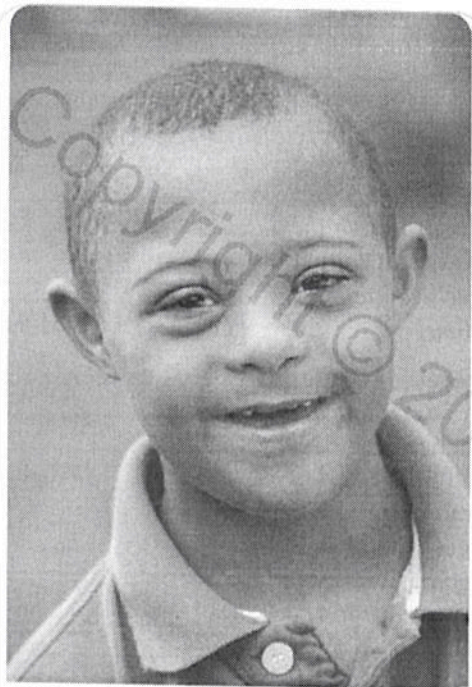
- Congenital heart disease.
- Gastrointestinal abnormalities.
- Leukemia.

**TABLE 11-4** Diabetes in the Early Childhood Setting

| Guideline                       | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Medical Management Plan         | <ul style="list-style-type: none"> <li>• Developed by the child's personal diabetes health care team along with parents</li> <li>• Provides instructions for glucose monitoring; insulin administration; and amount, type, and frequency of meals and snacks</li> <li>• Defines symptoms and treatment for hypoglycemia and hyperglycemia</li> <li>• Provides guidelines for physical activity</li> <li>• Provides instructions for emergencies</li> </ul>                                                                                                                                                                                                                                           |
| Parent Responsibilities         | <ul style="list-style-type: none"> <li>• Provide materials such as insulin, other medications, equipment needed for glucose monitoring, etc.</li> <li>• Provide supplies to treat hypoglycemia</li> <li>• Provide emergency phone numbers</li> <li>• Provide information about meals and snacks</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                           |
| School/Teacher Responsibilities | <ul style="list-style-type: none"> <li>• Provide appropriate training for persons responsible for child</li> <li>• Ensure accessibility to insulin and meals/snacks as defined in medical plan</li> <li>• Ensure accessibility to trained individual in the case of hypoglycemia</li> <li>• Have backup staff available who are trained to assist child in case the usual teacher or nurse is not available</li> <li>• Allow student to see nurse upon request</li> <li>• Provide opportunity for child to eat snack anywhere if necessary to prevent hypoglycemia</li> <li>• Allow student to go to bathroom or get water if necessary</li> <li>• Provide a plan for disposal of needles</li> </ul> |
| Student Responsibilities        | <ul style="list-style-type: none"> <li>• Toddlers/Preschool age: Need an adult to provide all aspects of diabetes care. Involve the child in decisions such as which finger to poke</li> <li>• Elementary age: May be able to check their own glucose but need supervision. Some older children may be able to give themselves insulin</li> </ul>                                                                                                                                                                                                                                                                                                                                                    |

Source: American Diabetes Association, 2013.  
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Children with Down syndrome have characteristic facial features.

- Alzheimer's disease at an early age.
- Immune problems.
- Thyroid problems.
- Problems with hearing and vision.

Children with Down syndrome are typically social and friendly. They usually experience delays in speech and communication. Although children may understand much of what they hear, their ability to articulate a response and produce understandable speech may be impaired. Motor skill development is also typically delayed. Cognitive challenges related to problem solving and reasoning are evident.

**Classroom Management Strategies** Children with Down syndrome are eligible for services through the IDEA. Often an educational assistant is assigned to support the child with Down syndrome along with other children with special needs in the classroom. Teachers should be well oriented to the child's IEP goals and strategies for successful inclusion. Children with Down syndrome benefit from inclusive learning activities. The use of visual cues is another important strategy to guide children to develop self-help skills and to reinforce verbal messages. Activities should be planned to help children build fine motor skills and to improve gross motor coordination.

Children with Down syndrome are often exceptionally sensitive to the visual cues and responses of others. They may be quick to recognize disapproval and are sensitive to failure, which may cause them to avoid situations that may be difficult. Teachers should provide tasks with appropriate challenge and supportive encouragement.

### Muscular Dystrophy

Muscular dystrophy (MD) refers to a group of genetic diseases that cause deterioration of the muscles resulting in progressive weakness, susceptibility to pulmonary infections, and premature death. It is a relatively rare disease that is diagnosed in 500 to 600 newborns each year. The most common type of MD is Duchenne's. It results from a genetic mutation that is linked to the X chromosome, causing the absence of a protein needed to maintain the integrity of muscle. It only affects males, although females can be carriers of this gene defect.

Initial symptoms of MD are weakness of the lower extremities, which becomes evident in early childhood, usually by 2 to 6 years of age (Heward, 2013). Families or teachers may notice that the child has enlarged calf muscles, walks on his toes, falls more than other children his age, or has difficulty climbing stairs (Ball et al., 2012; Heward, 2013). Typically by the middle of the teenage years, the child is unable to walk. Life expectancy is in the twenties.

Treatment for MD focuses on maintaining as much function as possible. Physical, respiratory, and speech therapies may be offered. Assistive devices are used to support mobility. Some drug therapies may be used.

**Classroom Management Strategies** Teachers work with early intervention specialists and families to identify the IEP goals for children with MD. Attention to

### WHAT IF . . .

a child in your classroom has Down syndrome? How would you plan ways to educate the class about this child's condition? What resources would you use to guide your planning? What would be your goals for this activity?



the physical environment is important to allow the child to move easily about the classroom and play yard. Adaptive equipment may be used to support the child's movement. Here is an example:

*Lyle moves with the assistance of an electronic wheelchair. His teacher, Nancy, rearranges the furnishings in her classroom to open pathways for Lyle to move to each activity area. She creates a large open area in the center of the classroom so that he can participate easily at group time. At age 3, he is very efficient navigating through the space. His wheelchair has a special attribute that allows him to lower the seat so that he is sitting on the floor. This makes it easy for him to build block structures with his friends and to be at the same height as the other children during group time.*

Despite physical health problems, children with MD should receive regular physical therapy and exercise. Outdoor play areas that have firm surfacing are especially important for children who have mobility problems. Teachers are cautioned never to lift these children by the arms because of the increased likelihood of joint dislocations (Heward, 2013). The teacher should provide small motor activities with pieces that come in a range of sizes. This allows the child to select the objects that best fit his ability to grasp and move. Encouraging activities such as washing hands, brushing teeth, and gathering pictures and personal belongings at the end of the day helps the child develop organizational and self-help skills.

## Seizure Disorders

Seizures are a sign of a brain problem. They occur when the electrical activity in the brain is abnormal. Seizures are the most common pediatric neurological disorder, and they are caused by high fevers, medicines, injuries to the head, and some diseases. Most seizures are relatively harmless, lasting from a few seconds up to two minutes. Seizures that last more than five minutes are a medical emergency. The types of seizures vary as follows (Ball et al., 2012):

- **Partial seizures** are caused by abnormal activation of a limited number of neurons. Children may have twitching or jerking of only part of their body, one extremity, or the face. These seizures may or may not impair consciousness.
- **Generalized seizures** involve a global, or total, abnormal activation of all neurons. These seizures do impair consciousness. In the past, these were called *grand mal seizures*.
- **Absence seizures** cause frequent, abrupt, but brief losses of consciousness often accompanied by eyelid flickering. In the past, these were referred to as *petit mal seizures*.

**partial seizures**  
seizures caused by abnormal activation of a limited number of neurons; symptoms typically are related to where the focus is located

**generalized seizures**  
seizures caused by global abnormal activation of all neurons

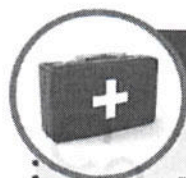
**absence seizures**  
frequent, brief, abrupt losses of consciousness

**febrile seizures**  
seizures caused by fever

**Febrile Seizures** Some seizures such as **febrile seizures** may not represent a seizure disorder. They are caused by fever and occur with the sudden rise in body temperature associated with acute illness. They are usually brief, lasting one to two minutes, and are more common among children between 6 months and 3 years of age with a peak incidence of 18 to 24 months. One-third of children who experience a febrile seizure will have another one (Ball et al., 2012).

Although most febrile seizures do not indicate an underlying problem or a serious infection, they can be a frightening experience for teachers and families. Families should be notified immediately if a child experiences a febrile seizure. A clear description of the event is important for families and medical providers. Because of the risk of recurrence, it is important to control any future fevers. Febrile seizures tend to diminish with age, and prognosis is excellent.





## HEALTH HINT Chronic Medical Conditions Have an Impact on Children's Lives

Chronic medical conditions such as epilepsy can have a strong impact on the life of families. For example, children with epilepsy have a higher risk of mental health conditions, including behavioral disorders, anxiety, and depression. Epilepsy is stressful for families, especially at onset. Parents report a high level of stress and worry associated with watching their child seize. In addition, the unpredictable nature of epilepsy can add to the worry. Families may wonder what would happen if their child had a seizure at school.

Children with epilepsy also have more problems with academics, even children with normal intelligence. Medications have been proposed as a possible cause, but this theory has not been substantiated by research. Families of children with special health care needs must have support and understanding from teachers to assure them that their child is safe and secure. Teachers can carefully document the child's history and indicate what to do if the child experiences an event or worsening of the condition at school. This not only ensures that proper treatment is given, but also comforts the family and helps relieve their stress.

**epilepsy**  
a chronic seizure disorder that is defined by having two or more unprovoked (not febrile) seizures

**Epilepsy** A chronic seizure disorder known as **epilepsy** is defined by having two or more unprovoked, not febrile (fever), seizures. Epilepsy may be caused by problems in brain development, illness, or injury, but in some cases, the cause is not known. Epilepsy occurs in about 1% of the population. This chapter's *Health Hint* discusses how epilepsy and other chronic health conditions can have an impact on children's lives and be associated with psychosocial issues.

**Classroom Management Strategies** A seizure care plan needs to be in place for any child with seizure disorders. Chapter 16 discusses the management of seizures in the classroom. A seizure care plan should include the following information:

- Type and description of the child's seizures.
- Current treatment regimen including medications, schedule, doses, route of administration, and side effects.
- Restrictions from activities including those that could be dangerous to the child should the child have a seizure during the activity and any activities that could precipitate a seizure.
- How to recognize a seizure and recommendations for first aid should a seizure occur.
- Guidelines on when emergency medical help should be obtained for the child.
- Plan to document seizures if they occur, including type/frequency of seizures, how the seizure was managed, any relevant observations.
- Plan to support the family of a child with epilepsy.

Teachers also need to be oriented to any medications that need to be given, and a medication administration plan must be in place. Often medication is not given unless the seizure lasts a certain amount of time, typically minutes. This should be defined by the child's health care provider.

**Valium** is a medication that is often used for acute seizures. It is administered rectally. Teachers follow the protocol for contacting emergency medical services as directed by the medical provider. Management of a seizure disorder may change frequently, especially in young children, requiring the care plan to be reviewed and updated.

**valium**  
a medication that can be given rectally in the case of acute seizures

## Conditions Affecting Communication, Hearing, and Vision

Some medical conditions involve the ability to communicate and the use of the hearing and vision sensory systems. **Communication** refers to the exchange of ideas, feelings, needs, and desires (Heward, 2013). It occurs through a variety of avenues including verbal language, facial expressions, written language, body language, and sign

**communication**  
the exchange of ideas, feelings, needs, and desires



language. Effective communication is necessary for all aspects of daily life. Children begin communicating as young infants and progress rapidly in the first few years of life. It is during this time that communication disorders may become apparent.

A **communication disorder**, as defined by the American Speech-Language-Hearing Association (ASHA), is “an impairment in the ability to receive, send, process, and comprehend concepts or verbal, nonverbal, and graphic symbols systems” (Heward, 2013, p. 283). Conditions affecting hearing and vision can have an adverse impact on aspects of communication. A child born with hearing loss may have difficulty with normal language development. A child with visual problems may not be able to express some forms of nonverbal language effectively. Although many conditions discussed in other sections of this chapter, such as Down syndrome, may involve communication problems, here we focus on children who have disorders specifically affecting communication, hearing, and vision.

**communication disorder**  
an impairment in the ability to verbally or nonverbally exchange ideas, desires, or needs

### Speech and Language Impairments

**Speech** is the aspect of language that is produced verbally. **Language** is a formal code developed by groups of people for the purpose of communication. Impairments in the speech and language systems interfere with communication. Communication disorders can be caused by damage to a specific organ or part of the body. More commonly, the cause cannot be attributed to any physical condition, and some researchers believe that environmental influences may play a role in some communication disorders (Heward, 2013).

**speech**  
the aspect of language produced verbally

**language**  
a formal code developed by groups of people for the purpose of communication

Estimates of the prevalence of speech and language impairments vary widely. Current estimates suggest that 2.5% of school-age children receive special education services for speech and language impairment. In addition, more than half of children receiving special education services for other diagnoses also receive speech and language services (Heward, 2013).

**Speech Impairments** The term *speech impairment* refers to problems in producing verbal speech. Three types of speech impairments are recognized (Turnbull et al., 2013):

- *Articulation disorders* affect the production of specific speech sounds. Articulation problems make it difficult to understand children’s speech.
- *Fluency disorders* affect the rhythm or flow of speech. Stuttering is an example of a fluency disorder.
- *Voice disorders* cause problems with the quality or use of the voice. Voice disorders can cause chronic hoarseness or abnormalities in the air coming through the nasal passage. These disorders are less common in young children.

**Language Impairments** Language impairments are typically classified as receptive or expressive:

- **Receptive language disorders** are impairments in understanding language. Children with receptive language disorders may have difficulties following directions or understanding spoken language.
- **Expressive language disorders** are impairments in the expression of language, or the use of language to communicate. Expressive language disorders may cause children to use words or phrases incorrectly.

**receptive language disorders**  
impairments in the understanding of language

**expressive language disorders**  
impairments in the expression of language

Children with language impairments often have difficulty in school and with social development and peer relationships. They also tend to have more difficulties reading and writing (Heward, 2013).



**FIGURE 11-3 Identifying Speech and Language Problems**

The following indicate that a child needs further evaluation for a speech and language problem:

**At < 12 months:**

- Rarely requests attention or objects
- Does not use more than one consonant or vowel

**12–18 months:**

- Does not take turns using vocalizations or utterances
- Does not comprehend single words
- Does not follow one-step commands

**18–24 months:**

- Does not speak or sign 50 words by age 2
- By age 2, does not begin to use  $\geq 2$  word utterances
- Rarely initiates his own language (as opposed to imitating or echoing)

**2–3 years:**

- Does not engage in small conversations
- Uses only one verb

**3–4 years:**

- Persons outside the family unable to understand spoken language
- Little or no growth of vocabulary

**5 years:**

- Has deficits in intelligibility, simple communication with others
- Not interested in learning about printed concepts

Source: Wankoff, 2011.

**CLASSROOM CONNECTION**

Watch this video to see how a teacher works with a child who has speech and language delays. What strategies does she use to keep the child focused on the task?

**Classroom Management Strategies** Teachers play an important role in identifying children with speech and language impairments. Through interaction and observation, teachers are often able to identify speech and language problems that families may not recognize. In the home, it is not unusual for family members to understand the meaning of children's communication by using contextual cues and nonverbal styles of communication. In the classroom setting, a child's challenges with communication may be more evident. Figure 11-3 lists a number of red flags that cue teachers to recommend that children receive further evaluation for potential communication disorders.

Children with speech and language problems may be eligible to receive early intervention services. Teachers can integrate speech and language goals into the daily curriculum with the help of speech-language pathologists. Consider this example:

*Nephi sets out a display of plastic snakes on the table. He invites Angie to inspect the toy snakes. First, they count the snakes, discovering that there are "seven snakes." Next, they inspect the designs on the toy snakes. Some have stripes and some have spots. They count the striped and spotted snakes and find that there are "four striped snakes and three spotted snakes." Through this game, Nephi helps Angie practice articulating the s sounds. They continue to add descriptive words that use the letter s sounds, such as "slithering snakes and silly snakes." As other children join the group, Nephi suggests that Angie tell the others how to play the counting game using the toy snakes.*

**Hearing Impairment**

**Hearing impairment** is a general term that describes a decrease in ability to hear and discriminate among sounds. Although it is a frequently used term, many people in the Deaf community prefer *deaf* or *hard of hearing*. Two kinds of hearing impairment are most common:

**hearing impairment**  
a condition causing partial or complete loss of hearing

**conductive hearing loss**  
hearing impairment caused by damage to the middle ear

- **Conductive hearing loss** refers to the type of hearing loss resulting from problems with the middle ear or eardrum and is usually milder than a sensorineural hearing loss.



## SAFETY SEGMENT Noise-Induced Hearing Loss in Children

Noise is an important preventable cause of hearing loss in children. Noise exposure destroys cells in the ear that are essential for hearing. Once lost, these cells cannot be regenerated. Noise is a growing concern because of the increasing prevalence of portable music and gaming devices used by children. Other sources of noise include concerts, airplanes, tools, power equipment, and guns. There is even more concern now with extended use of earpieces for iPods and other similar devices.

Research demonstrates that school-age children are at risk for some degree of hearing loss due to noise exposure. Although the degree of the hearing loss tends to be mild to moderate,

it can create challenges for school-age children, particularly in noisy settings such as classrooms. In classrooms, even mild hearing loss may reduce how much a child hears and understands directions and lessons. Teachers can make an impact by:

- Recognizing when a child may be having trouble hearing and referring the child for evaluation.
- Advocating for and implementing policies restricting the use of portable devices and the use of earphones at school.
- Educating parents about noise as a prevalent and preventable cause of hearing loss.

Source: Ball, 2012.

- **Sensorineural hearing loss** refers to damage to the acoustic nerves that connect the ear to the brain or to damage to the inner ear organ called the cochlea. The cochlea is the organ responsible for hearing. This type of hearing loss is permanent and more difficult to treat. The sound of speech from children who have sensorineural hearing loss is often distorted.

**sensorineural hearing loss**  
damage to the acoustic nerves that connect the ear to the brain or damage to the inner ear organ called the cochlea

Hearing impairment is one of the most common birth defects. Three in 1,000 babies born in America are diagnosed with permanent hearing loss (Heward, 2013). Hearing loss can also develop during childhood and later in life. Hearing impairment can be caused by various factors including genetics, illness experienced by the mother during pregnancy, illness during childhood, and injuries. The use of certain medications may cause hearing loss, and some environmental conditions can negatively impact hearing. The *Safety Segment* discusses noise-induced hearing loss.

Early identification of hearing loss is important. Research demonstrates that children who are identified with hearing impairment prior to 6 months of age and who receive appropriate interventions have a better chance of developing normal speech and language. Because the early years are so important for the development of speech and language, all states are required to offer a **universal newborn hearing screen** prior to hospital discharge.

**universal newborn hearing screen**  
hearing test done soon after birth that detects hearing loss in newborns

Medical definitions of hearing impairment classify the degree of hearing loss on a spectrum from mild to profound. The following degrees of hearing loss describe the lowest range a child can hear. The following decibel level ranges describe degrees of hearing loss (Ball et al., 2012):

- 0–25 decibels (dB): No hearing loss.
- 26–40 dB: Mild hearing loss.
- 41–60 dB: Moderate hearing loss; most conversational speech sounds are missed.
- 61–80 dB: Severe hearing loss; no speech sounds can be heard at conversational levels.
- 81–90 dB: Profound hearing loss; no speech sounds are heard.
- >90 dB: Deaf; no sounds are heard.

After the newborn period, children typically do not receive a hearing screen at preventive health care visits until 4 or 5 years of age. Some early childhood programs incorporate hearing screenings as part of their health services for children and families



Observation in the early childhood classroom is another way children may be identified. Teachers may notice symptoms of hearing loss or difficulties in the child's speech development that may suggest hearing impairment. Some children with hearing impairments may not manifest symptoms early in life and can exhibit typical development. This is why screenings are so important. Following are examples of behaviors according to age that may be of concern with regard to hearing impairment (Ball et al., 2012):

In young infants, teachers and families should be concerned if:

- There is no startle reflex or it is diminished.
- Child vocalizes very little or not at all.
- Child doesn't turn head toward sound by 3 to 4 months of age.

In preschool-age children, teachers and families should be concerned if:

- Child doesn't speak or cannot be understood.
- Child communicates mainly through gestures rather than speech.
- Child does not appear to be interested in playing with other children.

In school-age children, teachers and families should be concerned if:

- Child needs words to be repeated frequently.
- Child has problems speaking or has a monotone voice.
- Child prefers that music and TV be very loud.

**Classroom Management Strategies** Educational definitions of hearing impairment focus on the impact the hearing loss has on the development and use of speech and language as well as its effects on educational performance. The IDEA identifies two categories under which children may be eligible for services:

- "*Hearing impairment* means impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance but that is not included under the definition of deafness" (U.S. Department of Education, n.d.). A child with a hearing impairment can usually hear and respond to auditory stimuli including speech.
- "*Deafness* means a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification, and that adversely affects a child's educational performance" (U.S. Department of Education, n.d.). A child with deafness is prevented from receiving nearly all forms of sound.

Children identified for services by the local education agency may enter the early childhood program with an outline of goals identified in the IEP. The child's IEP and the early intervention team will outline the focus for services in the classroom. The teacher needs to know the style of communication the child is using. Oral approaches include Listening and Spoken Language; visual and gestural systems include Cued Speech and American Sign Language. Some children use a total communication method that combines spoken language and American Sign Language. The use of sign language also supports the language development of typically developing children.

Families often have strong preferences for a particular mode of communication. Some may prefer the Total Communication method, when a child communicates with both spoken and signed language (Heward, 2013). Sometimes the disability of the child with hearing impairment can be "invisible." Hearing loss cannot be seen, and often children with hearing impairments blend into the classroom so easily that the teacher may forget the child's special health care need. Common strategies used



to teach all young children are also appropriate for teaching children with hearing impairments. The focus on seeing and doing and engaging in activity-based learning are characteristic learning modes in early childhood that are also appropriate for children with hearing impairments.

Children with hearing impairments rely on their other senses, such as vision, to support learning. Because of their reduced ability to hear, they do not benefit from incidental conversations in the room. A review of the classroom noise level may be necessary to identify ways to reduce background noises. Facing the child when speaking and getting the child's attention before giving directions help to address this challenge. Speaking clearly and simply in a usual tone and volume and avoiding overly long and complex sentences are useful tactics when giving directions. Using appropriate facial expressions and gestures also helps to reinforce verbal messages, as do real-life pictures. The teacher's face and mouth should be clearly visible to the child who may support understanding by reading lips. Teachers also need to know how to check the child's amplification system (hearing aids), doing it *daily*, to ensure that it is working appropriately.



Children with visual impairments rely on their tactile and auditory senses to support learning.

Eddie Lawrence/Darling Kindersley, Ltd.

## Vision Impairments

The term *vision impairments* refers to conditions in which vision is reduced even when corrected with glasses or contact lenses. Genetics, birth defects, and eye disorders, as well as age-related eye disease, can cause vision impairments. Some of the common causes are refractory errors (nearsightedness and farsightedness), amblyopia, and strabismus. About 2.5% of preschoolers and over 3% of school-age children have vision problems (Ball et al., 2012).

Two kinds of vision impairment are typically recognized: low vision and blindness. These are identified using a test of **visual acuity**, a measure of how well a child can distinguish forms or discriminate details. This is typically assessed by having a child read letters, numbers, or symbols on an eye chart. The measure provides a pair of numbers that compare what the child can see against what a normal eye can see at 20 feet.

- A *normal eye* is scored at 20/20.
- *Low vision* is the term used for measures between 20/70 and 20/400.
- **Blindness** is identified at measures of 20/400.
- *Legal blindness* is measured at 20/200.

For example, a child with low vision (20/70) must stand 20 feet away from an object that a child with normal vision could see clearly at a distance of 70 feet.

**Classroom Management Strategies** Children with low vision may not be identified for services by the local education agency. Children with more significant vision loss and blindness are likely to be identified for service and will enter the early childhood classroom with an IEP. These children are likely to receive support services from a vision specialist in addition to the early childhood program, and the specialist may serve as a consultant for the child's teacher.

Children with visual impairments rely on their other senses to support learning. Children with low vision are able to use sight for some activities as well as sound and tactile exploration. For these children, it may be useful to assess the lighting in the classroom. Reducing glare and providing color contrasts in some materials may assist the child to discriminate among objects visually. Children who are blind rely primarily on tactile and auditory stimuli.

### visual acuity

a measure of how well a child can distinguish forms or discriminate details

### blindness

vision of 20/200 or worse even with the best possible correction



For children with both types of vision challenges, direct interaction with materials and objects is important to support learning. Sensory activities that allow them to gain vocabulary based on tactile stimuli are good choices. Placing ice cubes in the sensory table where children can feel them melting in warm water is a good way to introduce a discussion of temperature, melting and freezing, solids and liquids, and floating. It is important to maintain appropriate expectations for children with vision impairments so that they can be as independent as possible. Other ideas for support include these:

- Speak the child's name when addressing him or her in the classroom. Children with visual impairments may have a difficult time noticing eye contact.
- Name specific items and events rather than using pronouns such as *this* or *that*.
- Give verbal warnings prior to handing something to the child.
- Provide appropriate supports for mobility in the classroom.
- When physically showing a child how to do something, put the child's hand over yours rather than the other way around.
- Assign the child appropriate and meaningful classroom "jobs."
- Encourage cooperative group activities so that peer socialization skills can be learned.
- Remember safety while being careful not to overprotect the child.

Children with vision impairments may begin learning tactile codes such as Braille along with their early reading activities in elementary school. Specialized instruction of this kind is usually done by a teaching specialist.

## SUMMARY

- The range of health care needs is broad and can impact many aspects of health, including activities of daily living, learning, and socialization. By understanding each child's special health care needs and planning strategies to maximize the child's functional status and capabilities, teachers can help children with special health care needs succeed in the classroom.
- Teachers are a critical part of identifying goals for inclusion and planning strategies to address these goals in the classroom.
- Because health care needs are so broad and each child has specific capacities, teachers many need to gain a renewed understanding of conditions as each classroom develops.
- Having a basic understanding of health care needs and planning classroom management strategies will enable teachers and families to enhance learning in the early childhood setting.



### CHECK YOUR UNDERSTANDING 11.3

Click here to check your understanding of managing special health care needs.

## Chapter Quiz



Click here to check your understanding of Chapter 11, Teaching Children with Special Health Care Needs.

## Discussion Starters

1. How might teachers alleviate stressors that families experience when their children are enrolling in an early childhood program?

